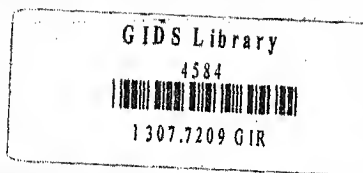


INTEGRATED AREA DEVELOPMENT PLAN
OF
BABINA BLOCK

86

SUBMITTED TO
THE UTTAR PRADESH DEVELOPMENT SYSTEMS CORPORATION LTD.



BY
GIRI INSTITUTE OF DEVELOPMENT STUDIES
LUCKNOW

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May 1981

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- 1 Physical Conditions
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- 3 Identified Central Places
- 4 Proposed Functions/Facilities

CHAPTER I

Introduction

Prior to the beginning of the Fourth Plan in India, one of the main objectives of planned development programme was to achieve the maximum possible growth rate. The underlying assumption behind this objective was that an increase in the gross national product would percolate down to the poorest and thereby help in eliminating the problems of poverty, unemployment and inequality. But according to the previous experience a rising growth rate had been no guarantee against these problems. Therefore, in early seventies, the development was conceived to be more than economic growth, and equity with a view to narrowing down the ever widening gap between the rich and the poor was recognised to be an inalienable dimension of development.¹ The emphasis was, therefore, shifted to improvement in living conditions of the rural poor and many special area development programmes like Drought Prone Area Programme (DPAP), Small Farmers Development Agency (SFDA), Hill Area Development Programme (HADP) and Integrated Tribal Area Development Programme (ITADP) including National Programme of Minimum Needs were launched for achieving the foregoing objective.

¹Irma Adelman and C.T. Morris, Economic Growth and Social Equity in Developing Countries, Stanford University Press, Stanford, 1973.

1. Rationale for Block Level Planning

In the above context, it was also realised that without district or block level planning, there could be no hope for an acceleration in the pace of development of backward areas and the reduction of regional inequalities. Therefore, increasing productivity through a strategy of growth for social justice and providing full employment to the people of rural areas was the major thrust in the Fifth Plan. Since the translation of these objectives into programmes/schemes requires an extremely location specific planning strategy for the rural areas, emphasis was laid on the production-cum-employment thrust of the block level planning with a more equitable distribution of basic amenities. The programme of integrated rural development was started and within its framework a campaign for formulation of block level plans was launched in the mid of the Fifth Plan. The rationale behind the formulation of block level plans are as follows :

- i. better perception of basic issues at the 'grassroots' levels with specific attention to the rural poor, and formulation and execution of programmes and projects for their solution;
- ii. better exploitation of the growth potentials of an area for improving productivity and increasing production and employment;
- iii. opportunities for direct participation by the local population, particularly the poor majority in development decision-making directly at the lower level and also opportunities for participation of target groups concerned as an end itself; and
- iv. mobilisation of local resources, mainly surplus labour.

2. Objectives

The present integrated area development plan of Babina block has been formulated keeping in view the major objective of providing maximum possible employment opportunities through fuller exploitation of physical, natural and human resources of the area. It is an obvious fact that this objective will help not only in eliminating the problems of poverty and unemployment but also in reducing income inequalities between the rich and the poor. Within the framework of this broad objective, the specific objectives which are proposed to be covered under the present study will be as follows :

- i. to study the availability of natural endowments and resource potentials and their utilisation with a view to identifying the major constraints to development;
- ii. to assess the levels of development under different sectors in the block and analyse its relative position in the context of Jhansi district;
- iii. to carry out the review of the on-going schemes and identify growth inhibiting factors;
- iv. to formulate strategy for development in the long term perspective, taking into account the resource potentials and their utilisation, performance of on-going schemes and constraints to development;
- v. to carry out an exercise relating to the identification of central places and find out infrastructural gaps to be bridged in future for an integrated development of the area; and
- vi. to suggest sectoral programmes for accelerating the pace of developmental activities with a view to generating employment and income opportunities.

3. Methodology

In order to accomplish the above mentioned objectives, it would be necessary to study, in detail, the availability

of resource potentials, assess the levels of development of different sectors and analyse the performance of on-going schemes. This, in turn, would help in identifying the problems, difficulties and constraints to development. Moreover, the study of these aspects will also help in formulating strategy for development in the long term perspective. Second, efforts will also be made to identify central places with a view to finding out the infrastructural gaps in terms of missing functions/facilities which are invariably needed to be provided for integrated development of the area. Third, the programmes/schemes of different sectors will be proposed for implementation taking into account the priorities, problems and available resources. Fourth, the programmes proposed for implementation are to be quantitatively and qualitatively related to the nature and magnitude of the problems of unemployment and underemployment. Lastly, aspirations, felt needs, preferences of the people and their willingness and acceptance will be given due weightage while formulating programmes and schemes of different sectors.

4. Plan Document

The present plan document is arranged into eight chapters. The first chapter on 'introduction' provides, in brief, the rationale for block level planning and describes its objectives and methodology. The second chapter presents a background of the block in terms of physiography, socio-economic status, performance of on-going schemes and constraints to development, whereas the third chapter is devoted to the formulation of

strategy for development in the long term perspective. The chapter fourth deals with an exercise regarding the identification of central places, while the fifth chapter attempts to give an account of proposed programmes of different sectors. The magnitude of employment opportunities likely to be generated as a result of implementation of the proposed programme is given in chapter six. The seventh and eighth chapters relate to the financial implications and reorganisation of planning and implementation machinery respectively.

CHAPTER II

Block Profile

A. Physical Conditions

Babina, which lies in latitude $25^{\circ} 14'N$ and longitude $78^{\circ} 28'E$ on the Jhansi-Sagar national highway about 17 miles south of Jhansi, is one of the development blocks of Jhansi district. This is located in Jhansi tehsil. It is connected by an unmetalled road with Baidaura on the north-west and by a metalled road with Sirsa Ghat on the north-west and Dhukwan on the south-east. About 6 miles south-east of Babina lies the Dhukwan dam on the Betwa river, which is named after the village Dhukwan abandoned in 1904 to form the site of the reservoir. A metalled road connects it with Babina.

The general land-scape of the block¹ presents a vista of bare, undulating plains interspersed with the rocky hills on ravined river beds and unattractive plains of red soils. The whole block is mostly rocky because of prominent extension of Vindhyan Plateau with red-soil belt spread over it. It is an uneven red-soil tract which is marked by the existence of numerous bare or rocky hills dotted with scrub. The height of the Vindhyan Plateau above the sea level at Babina railway station is 931.5 feet.

The climate of the block is characterised by a hot dry summer and cold winter. The climate is prone to high variability of rain fall from year to year and excessive heat

¹Babina is one of the ten towns of the district. There are ten VLW circles, eight Nyay Panchayats, sixty Gaon Sabhas and 91 revenue villages, out of which 17 are depopulated. Statistical Bulletin 1979, Office of the Economics and Statistics Officer, Jhansi.

during summer which is due to barren rocks and rocky nature of the soil. On an average, the maximum and minimum temperature during the period 1969-78 was 46.02 and 2.71 centigrade respectively. The average annual rainfall recorded during this period was 915.8 millimeters.

The important rivers of the block are Betwa, Pahuj and Ghurari. The Betwa flows through south-east boundary of the block and passes through Madhya Pradesh. The river Ghurari, which enters the block at Hirapur, flows through southern portion of the block and passes to Madhya Pradesh via Rasoi and Simrawari. The third river known as Pahuj enters the block at Baidaura and passes through heart of the block via Math, Pathari and Lahargird villages. The important dam known as 'Sukwa-Dukwan' is located on the river Batwa near Sukwa village. Another dam named as 'Dongri' is under construction on Khaprail Nala, which merged in Pahuj river at Pathari village.

The main soil found in the block is 'mixed red' locally known as 'Rakar'. This is generally found on the plateau tops and upper slopes. Some portion of the block is also having 'Mar' and 'Kabar' soils which are rich in texture and suitable for production of wheat, gram and vegetables. Large areas have only shallow soil and, therefore, remain uncultivated through out the year because of its rocky nature and absence of irrigation facilities.

As regards availability of minerals, the Vindhyan Sandstone is found fairly extensively at several places in the block and is an excellent building stone. The fine to medium-grained hard and compact granites, gneisses and quartzites which are found in the block are also good sources of road metal and building material, the dolerite dykes and quartz reefs also providing materials for road making. Besides, limestone is also found in the block but it is highly siliceous and occurs in a very small quantity. The soapstone of inferior quality is also reported to be available in some portion of the block.

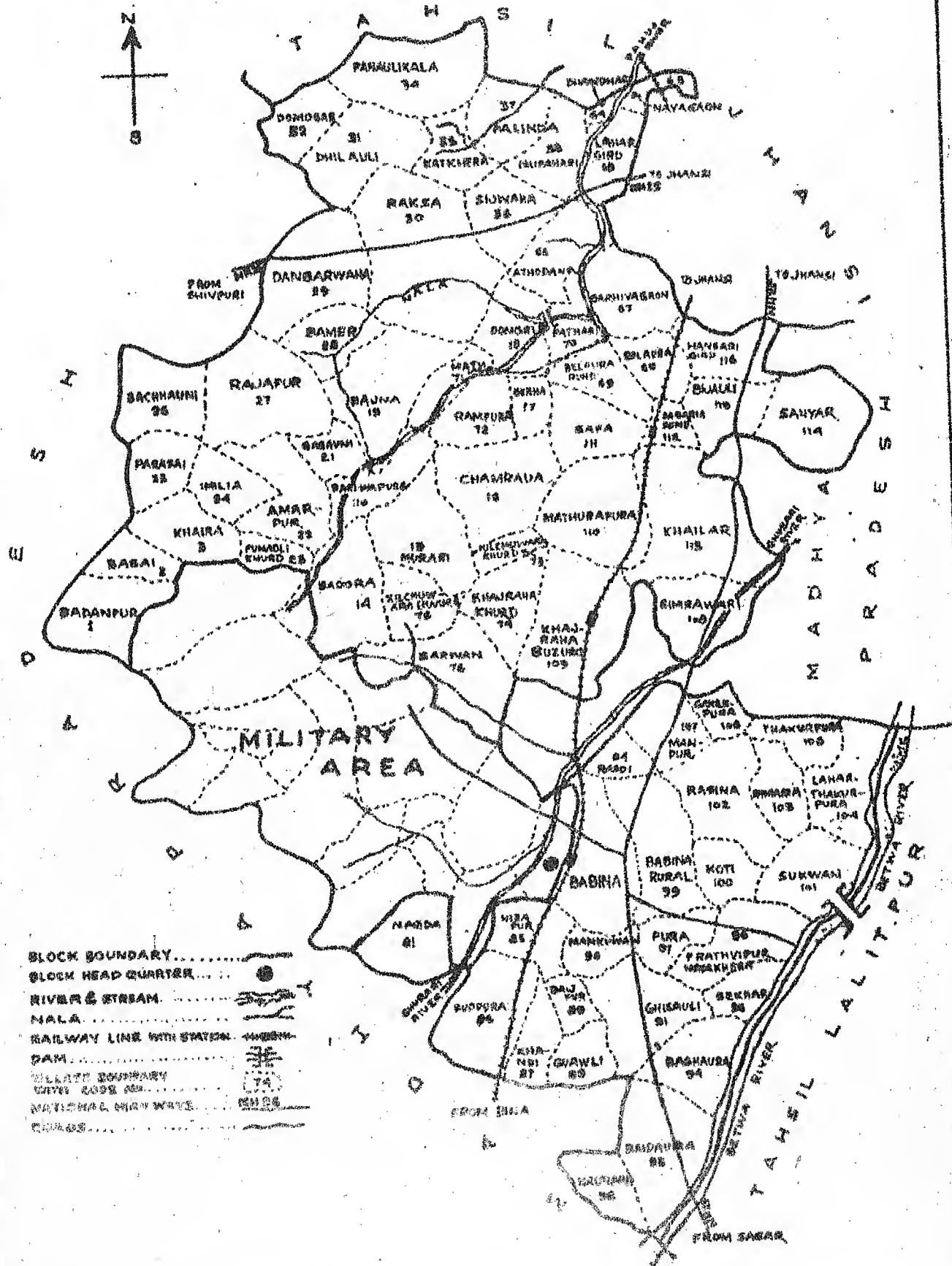
The forests are scattered through out the block. The timber trees are generally confined to the Vindhyan slopes, teak being found along the Betwa river and Salai on the hills that are flat. The forests of block are utilised mainly to meet local demands for firewood and only forest industry is that of Biri making for which leaves of Tendu trees are used. Other minor products of the forests are honey, wax and lac but their yield is negligible. The chief grasses of the block are musel, guner, lampo or parba.

Physical features of the block are shown in map number 1.

B. Demographic Structure

1. Population : According to 1971 Census, the total population of Babina block is 77,214 persons, out of which rural population is about 77 per cent as against the corresponding percentage of 67.90 for the Jhansi district. The decennial growth rate of population in the block during the period 1961-71 was

MAP 1



22.1 per cent as compared to 21.78 per cent in the district. The details of the population characteristics are given in the following table.

Table - 2.1 : Population Characteristics

Sl. No.	Particulars	Babina	Jhansi
1.	Total Population	77,214	870,138
2.	Density of population per sq. km. of area	112	172
3.	Percentage of rural population to total population	77.10	67.90
4.	Percentage of scheduled caste population to total population	23.96	27.60
5.	Sex ratio	858	879
6.	Literacy percentage	18.4	29.0

Source : District Census Hand Book, Jhansi, 1971

As shown above, the density of population per sq. km. of area in the block during 1971 was 112 against the corresponding figure of 172 for the district and 300 for whole of the state. Hence, the whole block is sparsely populated. The percentage of scheduled caste population in the block during 1971 was 23.96 per cent, whereas the corresponding percentage for the district was comparatively high, i.e. 27.60. In the matter of educational development, the block is found to be relatively more backward. The literacy percentage in the block during 1971 was 18.4 only as compared to 29 per cent for whole of the district.

2. Occupational Structure : The distribution of total workers into primary (i.e. agriculture, animal husbandry, forestry, fisheries and mining), secondary (i.e. manufacturing, construction, power, gas and water supply) and tertiary (commerce, transport and other services) sectors in the block during 1971 was as follows :

Table - 2.2 : Occupational Structure

Sl. No.	Particulars	Babina	Jhansi
1.	Total population	77,214	870,138
2.	Total workers	23,320 (30.47)	248,069 (28.52)
3.	Workers in primary sector	16,265 (69.75)	164,359 (66.27)
4.	Percentage of cultivators and agricultural labourers to total workers	68.18	65.11
5.	Percentage of workers engaged in animal husbandry, forestry, fisheries and mining to total workers	1.57	1.16
6.	Workers of secondary sector	1,396 (5.99)	22,620 (9.11)
7.	Workers of tertiary sector	5,659 (24.27)	61,090 (24.62)

Source : District Census Hand Book, Jhansi, 1971

Note : Figures given in parentheses at Sl.No.2 denote percentage to total population, whereas figures given in parentheses at Sl.Nos. 3 to 7 denote percentages to total workers.

It is clear from the above table that the percentage of total workers to total population in the block during 1971 was 30.47 as compared to 28.52 per cent in the district. As much as 68.18 per cent of the total workers were cultivators and agricultural labourers in the block against the corresponding percentage of 65.41 for the district. On the other hand, the percentage of workers engaged in primary, secondary and tertiary sectors in the block was 69.75, 5.99 and 24.27 respectively. Whereas the corresponding percentages for the respective sectors at the district level were 66.27, 9.11 and 24.62. This shows that primary sector occupies key position in the economy of the block and slightly greater than two-third of the total workers is engaged in agriculture for their livelihood.

C. Socio-Economic Status

1. Size of Holdings : The total number of land holdings in the block during 1976-77 was 16,556, out of which 39.57 per cent were below one ha., accounting for 7.12 per cent of the total area under different types of land holdings. Whereas the corresponding percentages at the district level were 40.91 and 8.88 respectively. Similarly, as shown below the percentage of holdings falling in the category of '1 to 3 ha.' in the block was 32.90 as against 36.85 per cent in the district.

Table - 2.3 : Size of Land Holdings During 1976-77

Sl. No.	Size of land holdings	Babina		Jhansi	
		Number	Area(ha)	Number	Area(ha)
1.	Below 1 ha.	6552 (39.57)	2423 (7.12)	62995 (40.91)	29910 (8.88)
2.	1 ha. to 3 ha.	5447 (32.90)	10266 (30.15)	56739 (36.85)	95945 (28.49)
3.	3 ha. to 5 ha.	3299 (19.93)	11280 (53.13)	17005 (11.04)	64828 (19.25)
4.	5 ha. and above	1258 (7.60)	10083 (29.60)	17238 (11.20)	146125 (43.38)
Total		16556 (100.0)	34052 (100.0)	153977 (100.0)	336808 (100.0)
Average size of holdings		2.06		2.19	

Source : Office of the Economics and Statistics Officer, Jhansi

Note : Figures given in parentheses denote percentages of the size of holdings to total holdings.

However, the percentage of holdings falling in the category of '3 ha. and above' in the block was 27.53 accounting for 62.73 per cent of the total area under different types of land holdings. The corresponding percentages for the whole district were 22.24 and 62.63 respectively. Thus, one can safely conclude that slightly higher than 72 per cent of the farming community in the block belong to the category of small and marginal farmers. The average size of holdings in the block is found to be 2.06 ha. as against 2.19 ha. in the district.

2. Land Use Pattern : As shown below, the total reporting area of the block in 1977-78 was 71,553 ha. out of which only 21.48 per cent was under cultivation. Whereas the corresponding percentage for the district was as high as 60.56. The relatively less area under cultivation in Babina block is mainly because a good piece of land best suited for cultivation has been declared as military area. According to the following table, the forests accounts for 8.61 per cent of the total reporting area of the block as compared to 6.43 per cent in the district :

Table - 2.4 : Land Use Pattern During 1977-78

Sl. No.	Particulars	Babina	Jhansi
1.	Geographical area	71,553	506,547
2.	Forests	6,162 (8.61)	32,575 (6.43)
3.	Culturable waste	33,274 (46.50)	76,575 (15.12)
4.	Fallow land	4,475 (6.25)	31,396 (6.20)
5.	Barren and unculturable land	8,185 (11.44)	24,826 (4.90)
6.	Land put to non-agricultural uses	2,962 (4.14)	30,304 (5.98)
7.	Pastures	438 (0.64)	984 (0.19)
8.	Area under other trees and groves which is not included in net area sown	687 (0.96)	3,130 (0.62)
9.	Net area sown	15,370 (21.48)	306,757 (60.56)
10.	Gross cropped area	20,189	326,044
11.	Intensity of cropping (%)	131.35	106.29
12.	Net irrigated area	8,760	80,250
13.	Gross irrigated area	8,906	80,927

Source : Statistical Bulletin, 1979, Office of the Economics and Statistics Officer, Jhansi.

Note : Figures given in parentheses against Sl.Nos.2 & 3 denote percentages to Sl.No.1, whereas figures given against Sl.No.11 are derived after dividing gross cropped area by net area sown.

The culturable waste and fallow land, which can be exploited for purposes of cultivation in future, is 52.75 per cent in the block and only 21.32 per cent in the district. The intensity of cropping in the block is higher (131.35 per cent) than 106.29 per cent in the district. The area under pasture land in the block is 438 ha. which accounts for 0.64 per cent of the total reporting area, whereas the corresponding percentage for the district is hardly 0.19. Moreover, the percentage of net irrigated area to net area sown in Babina during 1977-78 was 56.99 as compared to 26.16 in Jhansi. Similarly, the percentage of gross irrigated area to gross cropped area was 44.11 in Babina and 24.82 in Jhansi.

The man-land ratio, which has been worked out after dividing the total workers engaged in agriculture (cultivators and agricultural labourers) by the net area sown, is found to be 1.03 in Babina during 1977-78 as against 0.53 in Jhansi and 1.23 in the state. Thus, the pressure of population on land in Babina as well as Jhansi is found to be comparatively low. On the basis of the present man-land ratio and intensity of cropping it can safely be concluded that extensive farming is still in vogue in the block.

3. Area Under Different Crops : Major crops of the block are maize, paddy, moong and urd in Kharif season and wheat, barley and gram in Rabi season. According to the following table, the percentage of area covered under cultivation during Kharif to gross cropped area (GCA) in the block during 1977-78 was 50.78,

whereas the corresponding percentage for Rabi season worked out to 49.22. The corresponding percentages for Jhansi were 33.27 and 66.73 respectively.

Table - 2.5 : Area Under Different Crops During 1977-78

Sl. No.	Crops	Babina		Jhansi	
		Area (Ha.)	% to GCA	Area (Ha.)	% to GCA
<u>A. Kharif</u>					
1.	Paddy	1,020	(5.05)	4,854	(1.49)
2.	Maize	4,168	(20.64)	4,462	(1.37)
3.	Jowar	235	(1.16)	64,735	(19.85)
4.	Moong	1,464	(7.23)	1,906	(0.58)
5.	Urd	1,183	(5.86)	2,199	(0.67)
6.	Arhar	409	(2.03)	19,561	(6.00)
7.	Others	1,774	(8.78)	10,743	(3.30)
Total		10,253	(50.78)	108,460	(33.27)
<u>B. Rabi</u>					
1.	Wheat	6,731	(33.34)	99,722	(30.59)
2.	Barley	1,958	(9.70)	3,287	(1.01)
3.	Gram	837	(4.16)	70,036	(21.48)
4.	Pea	90	(0.45)	976	(0.30)
5.	Masoor	275	(1.36)	7,005	(2.15)
6.	Oil Seeds	25	(0.12)	36,104	(11.07)
7.	Potato	20	(0.10)	454	(0.14)
Total		9,936	(49.22)	217,584	(66.73)
Gross Cropped Area		20,189	(100.00)	326,044	(100.00)

Source : Block Records

Moreover, the percentage of area covered under Kharif to that of net area sown in the block was 66.71, whereas the corresponding percentage for Rabi season was 64.65. The area covered

under high value crops (i.e. oil seeds, potato, etc.) is almost negligible in comparison to low value crops (i.e. paddy, maize, jowar, barley, etc.). This means that income considerations have not been able to prompt the cultivators for coverage of larger area under high value crops. This is more applicable in case of small and marginal farmers who have neither enough land for cultivation nor financial resources for application of costly inputs like irrigation, fertilizers and pesticides.

4. Irrigation : The irrigation sources available in Babina block consist of both major and minor irrigation works. In the former case, there is only 'Dhukwan' dam through which irrigation potential for 1,211 ha. is created in the block. The private minor irrigation works which are being used for irrigation purposes include masonry wells with and without persian wheels, and the pumping sets. The details of the existing sources of irrigation for Babina block are given in the following table :

Table - 2.6 : Sources of Irrigation in Babina During 1976-77

Sl. No.	Sources of Irrigation	(Number)	
		Babina	Jhansi
1.	Length of canal (Km.)	16.1	903.0
2.	Private tubewells	-	35
3.	Masonry wells without Persian wheels	4,444	17,591
4.	Persian wheels	4,183	13,407
5.	Pumping sets	348	103,448
6.	Ponds	-	10

Source : Statistical Bulletin, 1979, Office of the Economics and Statistics Officer, Jhansi.

Note : The data regarding Bundhies could not be made available.

The total length of existing canals in the block is about 16 k. only. There are, in all, 8,627 masonry wells, out of which 4,183 are fitted with Persian wheels. Besides, there are 348 pumping sets which are being used for lifting water for irrigation purposes. The total irrigation potential created through these sources is 11,004 ha., out of which about 11 per cent is created through canals and the rest through private irrigation works. The irrigation potential created and its utilisation is given below :

Table - 2.7 : Irrigation Potential Created by Different Sources and Its Utilisation During 1976-77

(Hectares)			
Sl. No.	Particulars	Babina	Jhansi
<u>A. Irrigation Potential Created Through</u>			
a)	Government sources	1,211 (11.01)	85,079 (66.35)
b)	Private sources	9,793 (88.99)	43,149 (33.65)
c)	Total	11,004 (100.00)	128,228 (100.00)
<u>B. Net Irrigated Area Through</u>			
a)	Government sources	24 (1.98)	55,101 (64.76)
b)	Private sources	8,423 (86.01)	21,563 (49.97)
c)	Total	8,447 (76.76)	76,664 (59.79)

Source : Office of the Economics and Statistics Officer, Jhansi.

Note : Figures given in parentheses against Sl.No. A (a) and (b) denote percentages to Sl.No. A (c), whereas those against Sl.No. B (a), (b) and (c) denote percentages to irrigation potentials created by different sources.

The above table shows that the percentage utilisation of irrigation potential created is greater (76.76%) in Babina than Jhansi (59.79%). But under-utilisation of the irrigation potential created through canals is much more in Babina as compared to Jhansi.

5. Consumption of Fertilisers : The consumption of fertilisers in Babina is comparatively low. Its consumption per ha. of net area sown in Babina in terms of N, P and K during 1976-77 was 3.89 kg., 1.50 kg. and 0.02 kg. respectively; whereas the corresponding figures for Jhansi as a whole were 4.37 kg., 2.23 kg. and 0.47 kg.

6. High Yielding Varieties : The details of the area covered under high yielding varieties of paddy and wheat are given in the following table :

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Table - 2.8 : Coverage of Area Under High Yielding Varieties of Paddy and Wheat During 1977-78

Sl. No.	Particulars	Babina	Jhansi
1.	Total area under paddy	1,020	4,854
2.	Area under high yielding varieties of paddy	25 (2.45)	430 (8.86)
3.	Total area under wheat	6,731	99,722
4.	Area under high yielding varieties of wheat	5,443 (80.86)	17,331 (17.38)

Source : Statistical Bulletin, 1979, Office of the Economics and Statistics Officer, Jhansi.

Note : The figures given in parentheses denote percentages to the total area under respective crops.

The above table shows that the percentage of area covered under high yielding varieties of paddy to its total in Babina during 1977-78 was extremely low, i.e. 2.45; whereas the corresponding percentage for wheat was as high as 80.86.

7. Cooperatives : There are twelve multi-purpose cooperative societies and 30 Sadhan Sahkari Samities with membership of 450 and 6,450 respectively. The total loan advanced to its members through these societies in Babina during 1977-78 was Rs.3.81 lakhs. Thus, on an average, each member received loan worth Rs.55 from these societies in Babina during that year. The credit/share capital ratio was 1.16; whereas the corresponding ratio for Jhansi worked out to 1.44. The reasons of low utilisation of cooperative credit facilities in Babina block as gathered by holding discussions with the farmers are inter alia the low investible capacity of the farmers and the procedural difficulties faced by them in obtaining the loan.

8. Agricultural Productivity : Owing to non-availability of productivity data at the block level, yields per ha. of important crops of Jhansi have been taken to be the representative of Babina block. Although the cultivated area per agricultural worker in Babina is high, the yield per ha. of important crops is found to be comparatively low as would be evident from the following table :

Table - 2.9 : Yield Per Hectare of Important Crops
During 1977-78

(in quintals)

Sl. No.	Crops	Jhansi	U.P.
1.	Early paddy	4.47	10.69
2.	Late paddy	7.01	11.59
3.	Maize	7.64	7.98
4.	Jowar	5.91	8.18
5.	Wheat	11.92	14.62
6.	Gram	6.09	7.29
7.	Sugarcane	427.63	469.41
8.	Moong	2.85	3.30
9.	Urd	3.41	3.71
10.	Arhar	9.91	14.41

Source : Agricultural Statistics, 1978, Directorate of Agriculture, U.P., Lucknow.

The above table indicates that yield per ha. of important crops in Jhansi during 1976-77 was much lower than the corresponding yield rates of the State. The factor chiefly responsible for this low agricultural productivity is stated to be the less adoption of improved agricultural practices in terms of fertiliser consumption and use of pesticides, besides inadequacy of irrigation facilities.

9. Animal Husbandry : The availability of livestock population per ha. of geographical area is a measure of agricultural input as animal power, availability of milch cattle for production of milk and also a source of raw materials for tanning and leather industry. According to livestock Census 1978, the total livestock population of Babina is 88,370, out of which cows and she-buffaloes constitute about 39.45 per cent, which

is slightly higher than 36.59 per cent for the whole district. Moreover, against the total livestock population, female goats and sheep are about 29 per cent, which compare fairly well with that of the district level. The details of the livestock population for Babina and Jhansi are given in the following table :

Table - 2.10 : Livestock Population in 1978

Sl. No.	Particulars	Babina		Jhansi	
		Number	Percentage	Number	Percentage
1.	Cows				
	Male	23,741	26.87	200,796	30.73
	Female	22,163	25.08	157,447	24.10
	Total	45,904	51.95	358,243	54.83
2.	Buffaloes				
	Male	2,804	3.17	15,658	2.40
	Female	12,695	14.37	81,630	12.49
	Total	15,499	17.54	97,288	14.89
3.	Goats	19,193	21.17	138,336	21.17
4.	Sheep	6,911	7.82	50,203	7.68
5.	Pigs	665	0.08	7,982	1.22
6.	Others	198	0.02	1,309	0.20
	Total	88,370	100.00	653,361	100.00
	Poultry Birds	8,670		51,718	

Source : Office of the Economics and Statistics Officer, Jhansi.

The livestock population per ha. of geographical area comes to 1.24 for Babina as compared to 1.29 for Jhansi. But quality of livestock is poor and majority of the milch cattle are of indigenous breed. The average milk yield per cow per day is reported to be hardly one litre, whereas the corresponding

yield
milk/per she-buffalo is about two litres. The total poultry birds in the block during 1978 were 8,670. The total annual production of eggs in the block is quite meagre and the eggs produced are consumed locally only. Owing to non-availability of any poultry development farm, poultry development programme has hardly made any progress in the block during the past.

During the year 1977-78, there were two veterinary hospitals (one at Babina and the other at Khailar), one artificial insemination centre (at Babina), one artificial insemination sub-centre (at Raksha) and one stockman dispensary (at Baidaura). The livestock population per veterinary hospital in the block comes to 44,185 as compared to 46,669 in the district. Although the strength of sheep is around seven thousand, there is no sheep and wool extension centre in the block. Likewise, there are about nine thousand poultry birds. But majority of the poultry keepers are generally having poultry birds for producing eggs for household consumption only. This programme can be run on commercial lines by way of ensuring proper supplies of chicks and poultry feeds to poultry keepers. This would help in augmenting income of the weaker section of society.

10. Fisheries : There is a good potential for fisheries development in Babina block. Out of the total water area of 55 ha., about 35 ha. is perennial and the remaining 20 ha. is seasonal. It is, however, disheartening to note that only 16 ha. of this water area is at present under pisciculture. The stocking of fingerlings per ha. of water area under pisciculture in the

block during 1977-78 was about 3,000 and annual production of fish was one quintal only. There does not exist any Fishermen Cooperative Society in the block.

11. Industries : In Babina, there are, in all, 15 industrial units in organised sector, out of which four are registered under Factories Act and the remaining eleven are registered with the Directorate of Industries, U.P. The number of persons employed in these industrial units is reported to be 301.

Moreover, there are only two industrial units registered with Khadi and Village Industries Board, providing employment to about 10 persons. Besides, there are 11 handlooms giving employment to about 20 persons. Among the small scale industrial units of organised sector, the important one is persian wheel manufacturing. Out of the total four persian wheel manufacturing units, two are located at Babina and one each at Khailar and Raksha. Besides, there is one Panchayat Udyog at Babina engaged with manufacturing of Bali, Trunks, Storage Bins, etc.

12. Power/Electricity : Power has to play an important role in both the agricultural as well as industrial development of an area. Babina is one of the backward blocks of Jhansi district in the matter of rural electrification. In all, there were 32 power sub-stations, 85 kms. of H.T. lines and 90 kms. of L.T. lines in the block during the year 1977-78. The percentage of villages electrified to total number of villages was about 15 as against 15.4 per cent in the district and 29.4 per cent in the whole state. Of the total eleven electrified villages,

all of them have power facility for agricultural and industrial connections and those availing power facility for domestic purposes are eight in number. The details regarding the availability of power facility in Babina as well as Jhansi are given in the following table :

Table - 2.11 : Availability of Power/Electricity

Sl. No.	Particulars	Babina	Jhansi
1.	Number of power sub-stations	32	236
2.	Number of transmission and distribution lines		
	i. H.T. lines	85.1	837.1
	ii. L.T. lines	90.3	438.6
3.	Percentage of electrified villages	14.86	15.4
4.	Number of villages having power facilities for		
	i. Agricultural/industrial connections	11	117
	ii. Domestic use	8	78
5.	Villages not having power facilities	63	650

Source : Statistical Bulletin, 1979, Office of the Economics and Statistics Officer, Jhansi.

13. Roads : Road is another infrastructure which helps in raising mobility of the people and augmenting economic activities of its adjoining areas. The average length of pucca roads per thousand square km. of area available in the block during 1977-78 was 142 kms. as compared to 135 kms. for the district. Similarly, the average length of pucca roads per lakh of population available in the block was 93 kms. as against 79 kms. for the district. This shows that block is

better served by the road infrastructure as compared to the district. The details of the existing road infrastructure are given below :

Table - 2.12 : Availability of Pucca Roads per '000 Sq. Km. of Area and Classification of Villages According to Their Distances

Sl. No.	Particulars	Babina	Jhansi
1.	<u>Length of Pucca Roads</u>		
	i. per '000 sq. kms. of area	142	135
	ii. per lakh of population	93	79
2.	<u>Classification of Villages According to Their Distances from Pucca Roads (No.)</u>		
	i. within the village	12	132
	ii. within the radius of 3 kms.	14	177
	iii. more than 3 kms.	48	458

Source : Statistical Bulletin, 1979, Office of the Economics and Statistics Officer, Jhansi.

The above table shows that out of the 74 inhabited villages in the block, only 12 villages are well connected with pucca road, 14 villages are having road within the radius of three kms. and the villages located at a distance of 'more than 3 kms.' are 48 in number. Thus, majority of the villages are deprived of pucca road facilities in the block.

14. Education : At present, there are 74 Junior Basic Schools, 5 Senior Basic Schools and two Higher Secondary Schools in the block. Neither there are teachers' training centres nor degree colleges in the block. An analysis of spatial distribution of existing educational institutions in the block reveals that

there are 54 villages which have facilities of primary level education within the village, 9 villages have this facility within the radius of 3 kms. and those situated at a distance of more than 3 kms. from the Junior Basic Schools are 11 in number. On the other hand, there are five villages which have senior basic schools within the village, 16 villages are situated within the radius of 5 kms. from Senior Basic Schools and those which are having this facility at a distance of 5 kms. and above are 53 in number. The literacy percentage in the block is about 18 only as compared to 29 per cent in the district.

15. Medical and Health : The existing medical and health institutions of the block are one primary health centre, one family welfare centre, four maternity-cum-child welfare centres, two vaccination centres and two allopathic dispensaries, one each in rural and urban areas. There are only six villages which are located within the radius of 3 kms. from allopathic dispensary. Hence, the people of the remaining 68 villages have to travel more than three kms. to avail the facility of allopathic dispensary.

16. Drinking Water : Although drinking water facilities are scarce in whole of the Bundelkhand region, Babina block is better served with this facility. Out of the total number of 74 villages, 70 villages are having the facility of potable water supply within the village. The population of only four villages have to travel upto the distance of three kms. to

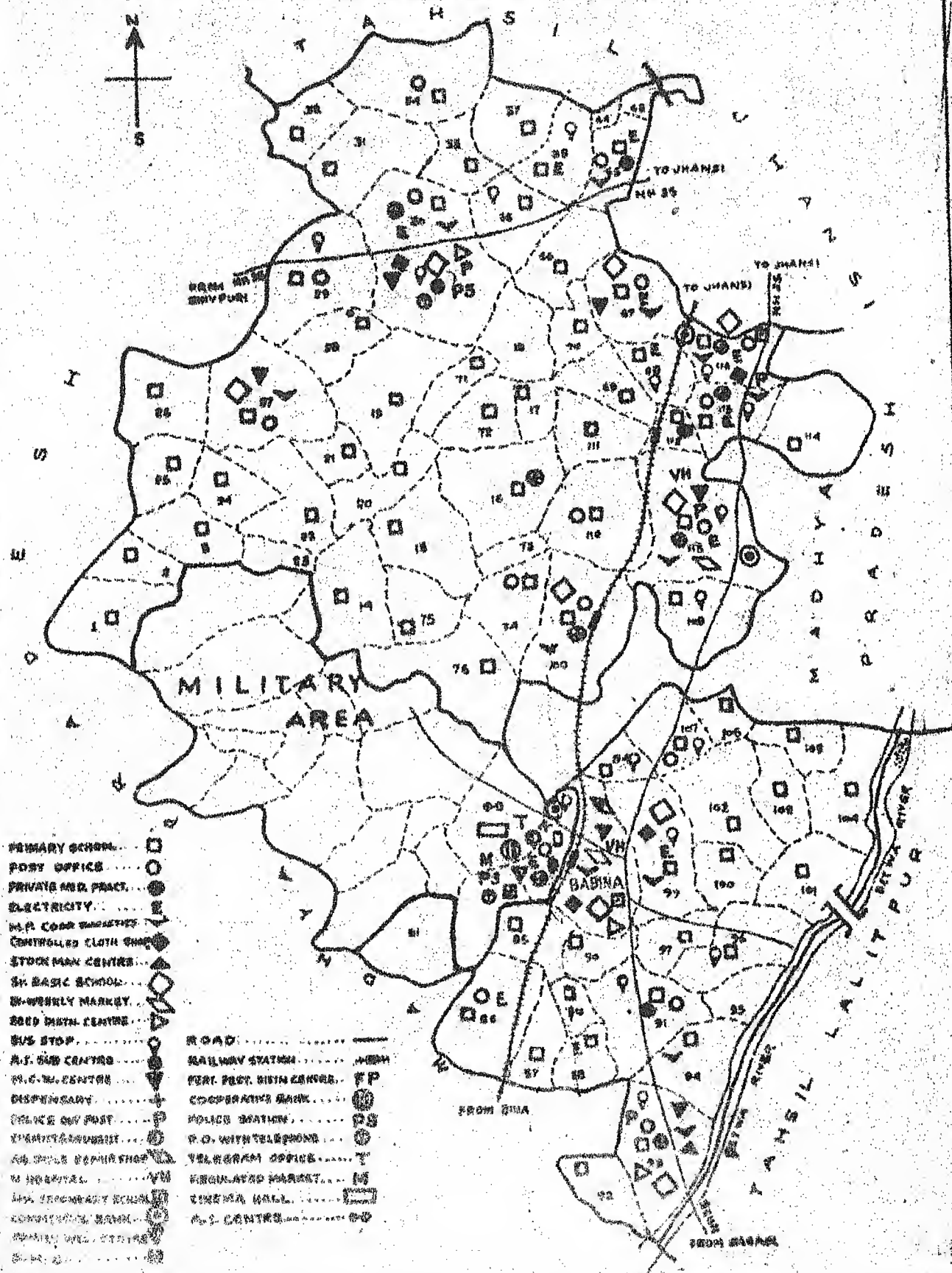
avail the facility of potable water supply. Moreover, out of the 70 villages having potable water supply within the village, 40 villages get this facility round the year and the remaining 30 villages have to face difficulty in getting constant water supply during summer. It is clear from the foregoing analysis that there are only 4 inhabited villages which do not have potable water supply at all.

The socio-economic facilities available in the block are shown in map number - 2.

D. Review of On-going Schemes

Originally it was decided to review and carry out qualitative assessment of all the schemes which are under implementation in the block. Hence, efforts were made through correspondence and personal contacts to collect relevant information/data pertaining to each and every scheme from the block headquarters. But because of poor maintenance of records it has not been possible to obtain all the desired information from the office of Block Development Officer, Babina for evaluating the performance of various schemes. In view of the data limitation, efforts have, therefore, been made through the subsequent paragraphs to carry out review of certain selected schemes for which the information/data could be received from the field. The schemes which have been reviewed here relate to the sectors of agriculture, soil conservation, irrigation, animal husbandry, fisheries, industries and drinking water supply.

MAP - 2



1. Soil Conservation : The area brought under cultivation through soil conservation measures in the block during the period of Fifth Five Year Plan is reported to be 850 ha. with total expenditure of Rs.5,950. Thus, the average cost of treatment per ha. comes to Rs.700. As a result of this, the net area sown has increased by 654 ha. from 14,716 ha. in 1973-74 to 15,370 during 1977-78. The remaining 196 ha. covered under soil conservation programme was utilised for growing orchards, tree groves, etc. Since about 40 thousand ha. of land is, at present, lying unproductive in the shape of fallow and culturable waste under the possession of Gaon Samaj in the block, it would be desirable to take up soil conservation programme on a large scale with a view to bringing about larger area under cultivation.

2. Agriculture : Since the start of the high yielding programme, efforts have been made in successive plans to cover maximum possible area under high yielding varieties of paddy, wheat, maize, jowar and bajra in the block. As a consequence, the percentage of area covered under high yielding varieties of wheat to its total in 1977-78 was as high as 80.86. But the corresponding coverage in respect of high yielding varieties of paddy was 2.45 per cent only. This shows that there is still need to carry out mass publicity of this programme through field demonstrations in the block for coverage of larger area under high yielding varieties of paddy.

The area under oil seeds, which was 997 ha. in 1973-74, increased to 2,707 ha. during 1978-79. The crop-wise details are given in the following table :

Table - 2.13 : Coverage of Area Under Oilseeds
(in ha.)

Sl. No.	Crops	1973-74	1978-79
1.	Groundnut	27	756
2.	Til	956	1,536
3.	Soyabean	5	34
4.	Lahi/Sarson	6	345
5.	Others	3	36
	Total	997	2,707

Source : Block Records

Since the soil of the block is also suitable for growing oil seeds, it would be in the interest of the farmers if this programme is carried out on a large scale in future.

Growing of vegetables has become very popular in the area. Those having persian wheels as an assured means of irrigation invariably grow both vegetables (potato, tomato, onion, brinjal, etc.) and spices (green chillies, haldi, ginger, termeric, etc.). The area covered under different types of vegetables and spices, which was 172 ha. in 1970-71, increased to 195 ha. during 1978-79. Thus, the area under vegetables has shown an increase of 23 ha. during this period. Hence, the scheme for growing vegetables needs to be strengthened and intensified on scientific lines.

3. Private Minor Irrigation : With a view to evaluating the performance of the scheme of private minor irrigation works, the data regarding the target and achievement of masonry wells, persian wheels, pumping sets were collected from the block headquarters. These data are given in tabular form below :

Table - 2.14 : Physical Targets and Achievements of Minor Irrigation Works

Sl. Particu- No. lars	(Number)							
	1978-79		1979-80		1980-81		Total	
	Tar- get	Achi- eve- ment	Tar- get	Achi- eve- ment	Tar- get	Achi- eve- ment	Tar- get	Achi- eve- ment
1. Masonry wells	120	80	140	91	180	254	440	425 (96.6)
2. Persian wheels	140	108	160	71	200	225	500	404 (80.8)
3. Pumping sets	80	85	130	63	200	216	410	364 (88.8)

Source : Block Records.

Note : The figures given in parentheses denote percentages to total targets.

The above table shows that more than 80 per cent of the total targets in respect of masonry wells, persian wheels and pumping sets were achieved in the block during the period 1978-81. These achievements are quite encouraging and in view of the inadequacy of irrigation facilities this scheme should be carried out in the area on a large scale.

4. Animal Husbandry : With a view to reviewing the progress made in animal husbandry sector, details of three schemes, i.e. artificial insemination, fodder development and poultry development could be obtained from the block headquarters. The data pertaining to artificial inseminations done and progenies born are given below :

Table - 2.15 : Progress in Artificial Inseminations and Progenies Born

Sl. Particulars No.	(Number)											
	1975-76			1976-77			1977-78			Total		
	Cow	Buf- fal- oes	Tot- al	Cow	Buf- fal- oes	Tot- al	Cow	Buf- fal- oes	Tot- al	Cow	Buf- fal- oes	Tot- al
1. Artificial inseminations done	261	204	465	239	168	407	235	233	468	735	605	1340
2. Progenies born	85	63	148	71	83	154	115	101	216	271 (36.9)	247 (40.8)	518 (38.3)

Source : Block Records.

Note : Figures in parenthese denote percentage of progenies born to total artificial inseminations done.

Thus, the effective successful percentages of artificial inseminations done for cows and she-buffaloes in terms of progenies born come to 36.9 and 40.8 respectively against the state level norms of 40 per cent for cows and 35 per cent for she-buffaloes. The scheme of artificial insemination can be run more successfully if proper facilities for maintenance of bulls, preservation of semen and its transportation are ensured at the artificial insemination centres.

The scheme of fodder seeds distribution was started in the block during the year 1970-71. The fodder crops which are being raised in the area consist of Berseem, Jai, Jowar, Lobia and M.P. Chari. The details of the fodder seeds distributed to the farmers during the previous three years are given below :

Table - 2.16 : Distribution of Fodder Seeds

(in Kg.)

Sl. No.	Fodder Seeds	1975-76	1976-77	1977-78
1.	Berseem	45	121	102
2.	Jai	225	242	110
3.	Jowar	-	10	-
4.	Lobia	8	50	70
5.	M.P. Chari	180	5	-

Source : Block Records

Thus, the quantity of fodder seeds distributed shows wide fluctuations from one year to another. Berseem, Jai and Lobia are the three fodder crops which have received some popularity in the area. Previously, there was a provision of 50 per subsidy on fodder seeds which has ceased to function from this year. This provision needs to be revived if fodder development programme has to be carried out successfully in the area.

5. Poultry Development : The scheme of poultry development has also been under implementation for a quite long time. There has been increase in the distribution of 'day old chicks' from 450 in 1975-76 to 695 during 1977-78. The distribution of 'month old chicks' has, however, remained stagnant around hundred. Besides, the number of layers distributed has decreased

from 40 in 1976-77 to 25 in 1977-78. There are no commercial units in the block and only backyard units are found in the villages. But because of the location of military area within the block houndary, the demand for eggs and poultry birds is constantly increasing. At present, the demand is met through constant supplies of eggs and poultry birds from Kanpur and Jhansi to this area. It would, therefore, be desirable to expand poultry programme through establishing poultry farms on commercial lines in Babina for ensuring supplies of eggs and poultry birds to the people.

6. Fisheries : Pisciculture has a wide scope because of the availability of sizeable water area of perennial nature in the block. Out of the 55 ha. of water area of perennial nature only 16 ha. are under pisciculture and annual production of fish is reported to be one quintal only. The whole programme needs to be revitalised by bringing about an improvement in the efficiency of managerial staff for ensuring timely stocking and distribution of fingerlings, besides deepening of ponds and tanks. Unless these measures are ensured, it would be difficult to augment the level of fish production.

7. Drinking Water

The block suffers from scarcity of potable water supply. The scheme which is being run in the block to cater to the needs of the people for potable water supply needs to be continued in future. Under this scheme, 70 villages have already been provided with drinking water facility and the remaining 4 villages still suffer from scarcity of potable water. Therefore, in future efforts should be made through

this scheme to provide potable water supply in these scarcity villages.

E. Constraints to Development

With the help of the foregoing analysis it may be concluded that agricultural productivity of the area is extremely low because of difficult soil texture, low consumption of fertilisers and lack of irrigation facilities. Major portion of the block is rocky because of extension of Vindhyan plateau with red-soil belt spread over it. Hence, the soils of the block do not favour much for agricultural development. A considerable area remains uncultivated in the absence of irrigation facilities. Lack of irrigation facilities is the major constraint to agricultural development. The scope for expansion of irrigation facilities is limited to a great extent. The hard and difficult strata of the soil do not leave much scope for construction of canals and installation of state and private tubewells. Persian wheels is the only source of irrigation widely popular in the area. Secondly, majority of the small and marginal farmers are not financially sound to use the costly inputs like fertilisers and pesticides. Moreover, the existing institutions for supplies of agricultural inputs are not adequate to meet the demand of the local people for fertilisers or pesticides.

There is a vast scope for the development of allied sectors like animal husbandry and fisheries. Although the population of milch cattle is quite high, majority of them are

of indigenous breed. Therefore, average milk yield per cow/she-buffalo is extremely low. The breeding programme and the feeds and fodder development programme, which have been under implementation for a long time, have not been successful in augmenting the animal productivity. These two programmes need to be strengthened by way of ensuring the availability of necessary inputs and gearing up the machinery for effective implementation.

A little less than one-third of the perennial water area of the block is under pisciculture. Moreover, production of fish per ha. of water area under pisciculture is extremely low. The delay in stocking and distribution of fingerlings is stated to be the main cause of low production of fish. Thus, the managerial staff of fisheries department has to play a crucial role in augmenting the rate of exploitation of water area and enhancing the average production of fish.

The area is extremely backward in the matter of industrial development. Industrial productivity is low. Whatever industrial activities are going on they are concentrated largely at Babina because of deficient infrastructural facilities specially roads and power. Although the existing potentialities do not suggest any ambitious programme for industrial development, expansion of industrial activities based on local resources and available skills is possible only when proper net work of roads and power is developed at suitable locations.

CHAPTER III

Perspective of and Strategy for Development

The perspective of development requires both the long term and short term planning. The former spanning usually 10 to 15 years, is conceived as a general programme of economic development which is to facilitate realistic solutions of current problems and to show the way for the more explicit long and short term plans. The latter is often done in terms of Annual or Five Year Plans with major limitation of the availability of meagre resources particularly financial and material. Thus, the main purpose of the perspective plan is to provide a background to the short term plans, so that the problems that have to be solved over a very long time can be taken into account in planning over a short term.

Perspective plan of micro-level unit has to make favourable contributions for achieving the national and state level objectives. As stated earlier, one of the main objectives of our planned development programmes in India is to achieve economic growth with social justice through eliminating the problems of unemployment, poverty and inequality. The present integrated area development plan of Babina block is proposed to be formulated within the framework of this broad objective. An ultimate objective of the present plan would, therefore, be to generate maximum possible employment opportunities in the long run (say 10 to 15 years) through proper exploitation of human, physical and material resources available in Babina

block. To achieve this long term objective, efforts have been made to design the proposed programmes in such a manner that they can make significant contributions in terms of providing larger employment opportunities in the area during the period of next five years.

The total population of Babina block in 1971 was 79,214 and its annual growth rate during the period 1961-71 was 2.02 per cent. Following this annual growth rate the projected population of the block for the years 1977-78, 1980-81 and 1985-86 comes to 88,795, 94,275 and 104,172 respectively. On the other hand, the estimates of labour force for these years come to 33,112, 35,155 and 38,846 respectively. The backlog of unemployment, which was 4,200 in 1977-78, is estimated to be 4,458 during the year 1980-81. The additional labour force likely to be generated during the period 1981-86 if added to its backlog of unemployment brings the total number of jobs required to 8,149 at the end of 1985-86. However, as a result of implementation of the present integrated area plan, it would be possible to provide additional employment opportunities to about 4,636 persons. Thus, about 3,513 persons will still remain unemployed at the end of 1985-86. This would require implementation of at least two more area plans of the same order in Babina during the decade of 1986-96 to bring about a significant reduction in unemployment, poverty and inequality.

The strategy for production and employment planning in the present context has been formulated taking into account the availability of natural resources and its exploitation, performance of on-going schemes and major constraints to development. Moreover, efforts have also been made to conceive of integrated structure of planning at the block level in order to overcome the basic criticism of planning that it has been neither adequately potential oriented nor need based. Hence, an integrated area development approach has been adopted for formulation of this block plan. The central places have been identified with a view to providing suitable locations for developing infrastructural facilities. This would help in accelerating the pace of development in an integrated manner. The details of the strategy for sectoral development are as follows :

1. Agricultural Development

Agriculture because of being major source of livelihood for the people of the area obviously receives the highest priority in the present plan. With a view to formulating strategy for agricultural development it would be essential to find out whether the block is self-sufficient in the production of foodgrains. The total production of foodgrains in the block during the year 1977-78 was 154,652 quintals which is expected to attain the level of 165,514 quintals in 1980-81, resulting in an annual growth rate of 2.3 per cent. The per capita availability of foodgrains per day for the projected

population comes to 430 gms. in 1977-78 and 433 gms. during 1980-81 which is less than the prescribed norm of 450 gms. This indicates that the block is deficient in the matter of foodgrains. In view of the proposed programmes of soil conservation, irrigation and high yielding varieties and availability of the resource potentials and previous performance, a feasible growth rate of 4.00 per cent is fixed for the production of foodgrains in Babina block during the period of next five years. Thus, its production is expected to attain the level of 201,174 quintals at the end of 1985-86; thus after allowing a margin of 10 per cent for seeds and storage losses it comes to 181,057 quintals. On the other hand, its requirement for the project population at the end of 1985-86 comes to 171,102 quintals according to the prescribed norm of 450 gms. per capita per day.¹ Thus, the marketable surplus of foodgrains for Babina at the end of 1985-86 works out to 19,955 quintals. Moreover, the target for additional production of foodgrains as worked out after subtracting its level in 1980-81 from that of 1985-86 comes to 35,660 quintals.

To achieve the target of additional production of foodgrains during the plan period it is proposed to bring about 3,500 ha. of additional area under cultivation through soil conservation measures and increase intensity of cropping from 131 to 141 per cent through suitable modifications in cropping pattern, development of additional irrigation potential and

¹ Draft Fifth Five Year Plan, Vol.1, Planning Department, Government of Uttar Pradesh, p.125.

extension of area under high yielding varieties. The efforts will also be made to establish agricultural seed stores and Mini Agriculture Service Centres for ensuring timely supplies of agricultural inputs and facilities of repairs/maintenance of agricultural implements to the farmers.

Above all, majority of the small and marginal farmers are living at the subsistence level or below poverty line. Therefore, with a view to making their economy viable, some of the programmes mainly of allied sector like animal husbandry and fisheries would be developed in such a fashion that their benefits in terms of self-employment and additional income percolate to them directly.

2. Animal Husbandry

As stated earlier, majority of the milch cattle are of indigenous breed and milk yield per cow/she-buffalo is extremely low. The raising of fodder crops is still not popular in the area. The existing veterinary institutions are not adequate to provide proper health cover to the livestock population. Thus, the whole animal husbandry programme needs to be strengthened and reorganised on scientific lines. For this purpose, it would be essential to undertake the following programmes on priority basis :

- i. distribution of milch cattle of improved breed among the small and marginal farmers;
- ii. establishment of stockman centres and artificial insemination sub-centres to extend veterinary services to deprived areas;

- iii. supply of improved fodder seeds to the farmers at subsidised rates;
- iv. expansion of goat rearing programme; and
- v. establishment of poultry farms on commercial lines.

This would help in supplementing the income of small and marginal farmers, besides enhancing the average milk yield in the area.

3. Fisheries

At present, only about one-third of the total water area of the block is under pisciculture and production of fish is almost negligible. Thus, there is need to undertake a programme of fisheries development on a large scale in a scientific manner. This would require formation of fishermen cooperative societies in the nearby villages of water areas. These societies will be chiefly responsible for deepening of tanks/ponds, besides stocking of fingerlings and production of fish. For this purpose, these societies will have to be provided with technical and financial assistance for its better management and purchase of necessary inputs.

4. Industries

Babina is one of the extremely backward blocks of Jhansi district in the matter of industrial development. Moreover, the existing potentialities do not suggest any ambitious programme for industrial development. However, in order to boost up industrial activities in the area, an emphasis will be laid on maximum possible exploitation of local resources,

skills and other raw materials. And in this context, it would be desirable to set up agro-based, forest based and other raw material based industrial units in the area besides demand based industrial units like printing press and electroplating.

5. Roads and Power

Effective implementation of productive programmes depends largely upon the availability of infrastructure particularly power and roads. These two facilities are proposed to be provided at suitable locations with a view to ensuring proper supplies of agricultural inputs to the farmers and transportation facilities for carrying out agricultural surpluses to the market centres.

CHAPTER IV

Integrated Area Development and Identification of Central Places

The concept of 'integrated area development', which was introduced in the country during the Fourth Plan, is supposed to be the most powerful tool for rural development. This concept is over and above the sectoral planning which has resulted in lopsided development. The integrated area development implies comprehensive planning for socio-economic development of an area. It involves two types of integration - functional and spatial. The former means coordinated expansion of different socio-economic services required for overall development of a particular area; whereas the latter tries to ensure maximum possible linkages between the activities of central places of different hierarchy, i.e. growth centre, service centre and central village.

The above concept is based on the simple assumption that every individual village cannot be a viable economic unit for the purposes of planning. Therefore it aims at providing a conceptual framework for the locations of various socio-economic services which can yield maximum possible benefits to the society with minimum possible cost. The locations are nothing but the focal points which act both as centres of convergence as well as centres of diffusion. As regards the former, if these places are better served with infrastructural facilities, they can offer opportunities of gainful employment and trade

and can also attract labour and entrepreneurs from their peripheries for the start of gainful economic activities. Whereas in the latter case, investment on development of functions and facilities at these centres generates growth impulses in the surrounding areas for development of primary, secondary and tertiary sectors. Thus, investment at these centres is expected to bring about multiplier effect on both the income and employment in whole of the periphery. Moreover, development of these centres in rural areas is also important because development of different sectors requires provision of certain inputs and infrastructure which cannot be provided in all the villages firstly because of resources constraints and secondly because every function/facility cannot sustain at each and every place.

Visualising the overwhelming importance of these central places in the present context it is felt necessary to carry out an exercise regarding the identification of central places for Babina block.

The three methods which are commonly in vogue for identification of central places consist of Scalogram analysis, population thresholds and ranking of central places, and ranking of settlements on the basis of functional hierarchy. The Scalogram method is based on the scale developed by L. Guttman; whereas the method of ranking of settlements on the basis of population thresholds has been used by Berry and Carriseion. The third one, i.e., ranking of settlements on the basis of

hierarchy of functions is based on the operational characteristics of the central place theory.

Through scalogram method no doubt one can very well observe the presence or absence of different functions/facilities at each settlement. This would further enable to know the functional gaps, i.e. functions which are missing from the settlements and on the basis of these functional gaps one can recommend for providing the missing functions to bridge these gaps in future. But sometimes it becomes very difficult to identify such gaps on the basis of scalogram analysis. This may happen in a situation when higher order functions are found located in lower order settlements, but these functions are not available at higher order central places in the area. This type of functional location in the area shows an uneven distribution of these facilities.

Moreover, the ranking of settlements on the basis of the median population threshold suffers from one basic limitation. As a matter of fact, the median population threshold of a particular function tells us the minimum population required for sustenance of a particular function. But the sustenance of that function may not be only because of the population of a settlement at which the function exists. Its sustenance and viability may also depend upon the population of adjoining settlements which also avail these facilities. Hence through this method it becomes difficult to ascertain as to whether the median population threshold obtained by this method is the real population size required to sustain a function.

So far as the third method, i.e. 'ranking of settlements on the basis of functional hierarchy' is concerned, the hierarchy of functions can be determined by the two methods of median population threshold and assigning weights to functions based on their frequency. Since the first method suffers from the basic limitation mentioned above, efforts would, therefore, be made in the present case to determine functional hierarchy through assigning weights to functions. According to this method, each function is assigned a weight arrived at after dividing the total number of settlements in a particular area by the total number of existing functions. This can be explained by example also. Suppose there are 150 settlements in a particular block with 75 Junior Basic Schools, 5 Senior Basic Schools, 3 Higher Secondary Schools and one Degree College. Then the weights for these functions will work out as 2, 30, 50, 150 respectively. After knowing weights of individual functions, one can carry out further exercise to work out the centrality score of each settlement by listing the number of each functions against the settlement and multiplying them by their respective weights and then pooling the scores thus arrived.

After having centrality scores of all the settlements of a particular area, the settlements are ranked in a descending order of centrality scores. Finally, one has to observe the cutting points in the series of the centrality scores which help in identifying the central places and assigning them the nomenclature of growth centres, service centres and central

villages. The National Institute of Rural Development (NIRD) Hyderabad has also preferred this method for identification of central places in its studies of Raichur district in Karnataka, Pauri Garhwal district in U.P., and Ibrahimpatnam block in Andhra Pradesh.

Before making any effort in the direction of identifying central places in Babina block, it would be essential to study the existing pattern of settlement. In Babina, there are, in all, 91 villages, out of which 74 villages are inhabited and the remaining 17 villages are depopulated. The distribution of inhabited villages by the size of their population in Babina rural is given in the following table :

Table - 4.1 : Distribution of Settlements by the Size of Their Population

Sl. No.	Size of Population	Number of Settlements	Percentage to Settlements	Percentage to Total Population
1.	Upto 200	2	2.7	0.2
2.	201 - 500	14	18.9	6.9
3.	501 - 1000	31	41.9	29.3
4.	1001 - 3000	25	33.8	51.8
5.	3001 - 5000	2	2.7	11.8
6.	Above 5000	-	-	-
Populated		74	100.0	100.0

It would be evident from the above table that about 64 per cent of the total settlements have population below one thousand persons covering approximately 36 per cent of the total population of the block. The remaining 36 per cent settlements accommodate as much population as 64 per cent. Hence although the small sized settlements outnumber the bigger sized settlements, a larger share of population is mostly concentrated in bigger sized settlements.

Regarding the urban population, it is worthwhile to mention that in whole of the block there is only one town known as Babina Cantt. The urban population of this town, which was 3,821 in 1951, increased considerably to 13,275 during 1971 mainly because of the concentration of military forces in the latter period of sixties.

With a view to identifying central places, initially efforts were made to collect village-wise data/information regarding the availability of 35 functions/facilities of different orders (lower, middle and higher). The functions and facilities for which the relevant data were sought to be collected from the field are listed below :

Table - 4.2 : List of Functions and Facilities

Lower Order Functions	Middle Order Functions	Higher Order Functions
1. Primary school	1. Agricultural Implements Repairing shop	1. Telegraph Office
2. Post Office	2. Veterinary Hospital	2. Cold Storage
3. Private Medical Practitioner	3. A.I. Centre	3. Regulated Market
4. Electricity	4. Higher Secondary School	4. Cinema Hall
5. Multi-Purpose Co-operative Society	5. Commercial Bank	5. Degree College
6. Pucca Road	6. Family Welfare Centre	
7. Controlled Cloth Shop	7. Primary Health Centre	
8. Junior High School	8. Railway Station	
9. Bi-Weekly Market	9. Hospital	
10. Seed Distribution Centre	10. Fertilizer & Pesticides Distribution Centre	
11. Stockman Centre	11. Cooperative Bank	
12. Bus Stop	12. Police Station	
13. A.I. Sub-Centre	13. Post Office with Telephone	
14. MCW Centre		
15. Dispensary		
16. Police Outpost		
17. Chemist & Druggist Shop		

Further, with the help of the data collected from the field against above mentioned functions which are placed at Appendix - I, efforts have been made to assign weights to each function after dividing the total number of settlements in the block by the total number of a particular function. A list of these functions alongwith their weights is given below :

Table - 4.3 : Functions and Their Weights

Sl. No.	Functions	Weights
1.	Primary School	1
2.	Post Office	4
3.	Private Medical Practitioner	2
4.	Electricity	6
5.	Multi-Purpose Cooperative Society	6
6.	Pucca Road	4
7.	Controlled Cloth Shop	15
8.	Junior High School	7
9.	Bi-Weekly Market	37
10.	Seed Distribution Centre	19
11.	Stockman Centre	74
12.	Bus Stop	5
13.	A.I. Sub-Centre	74
14.	MCW Centre	12
15.	Police Outpost	18
16.	Veterinary Hospital	37
17.	Higher Secondary School	25
18.	Commercial Bank	12
19.	Family Welfare Centre	74
20.	Primary Health Centre	74
21.	Railway Station	25
22.	Dispensary	37

Sl. No.	Functions	Weights
23.	Fertilizer & Pesticide Distribution Centre	74
24.	Police Station	37
25.	Post Office with Telephone	37
26.	A.I. Centre	74
27.	Cooperative Bank	74
28.	Telephone Office	74
29.	Cinema Hall	37
30.	Regulated Market	74
31.	Chemist and Druggist Shop	18
32.	Agricultural Implements Repairing Shop	74

The question of assigning weights to the remaining three functions (i.e. hospital, degree college and cold storage) does not arise because they are non-existent in the block.

Furthermore, the hierarchy of various functions has been calculated with the help of the weights assigned to different functions. Thus, it has been possible to find out breaks in the weights assigned to various functions, which in turn, has enabled to identify three levels of functional hierarchy. Once the functional hierarchy is decided, it becomes an easier task to establish hierarchy of settlements with the help of the centrality scores of different settlements. The list of settlements which appear as central places alongwith their population and centrality scores is given below :

Sl. No.	Functions	Weights
23.	Fertilizer & Pesticide Distribution Centre	74
24.	Police Station	37
25.	Post Office with Telephone	37
26.	A.I. Centre	74
27.	Cooperative Bank	74
28.	Telephone Office	74
29.	Cinema Hall	37
30.	Regulated Market	74
31.	Chemist and Druggist Shop	18
32.	Agricultural Implements Repairing Shop	74

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Table - 4.4 : List of Settlements Appearing As Central Places Alongwith Their Population and Centrality Scores

Sl. No.	Settlements	Population	Centrality Scores
1.	Babina Cantt.	13,275	1,349
2.	Raksa	4,370	254
3.	Khailer	2,390	176
4.	Baidaura	2,295	143
5.	Hansarigird	4,633	128
6.	Bijauli	2,574	57
7.	Khajuraha Bujurg	1,981	46
8.	Babina Rural	993	46
9.	Garhiya Gaon	2,963	36
10.	Raja Pura	1,423	31
11.	Lahargird	1,692	23
12.	Ghisauli	1,203	22
13.	Belora	1,300	16
14.	Pali Pahari	1,266	16
15.	Manpur	777	14

Babina rural is one of the above 15 settlements appearing as central places. Since this settlement is part and parcel of Babina Cantt. and all facilities of the latter are already being utilised by the former, there seems to be no convincing logic for selecting Babina rural as a separate central place. Second, Belora is located in between Garhiyagon and Bijauli and its centrality score is much lower (16) as compared to Garhiyagon (36) and Bijauli (57). Therefore, it would not be worthwhile to include Belora in the list of central places.

In view of the above considerations and also the breaks perceptible in centrality scores, it would therefore be desirable to identify one (Babina Cantt.) rural growth centre, 2 service centres and 10 central villages in whole of the area. The names of these central places are mentioned below :

Table - 4.5 : List of Finally Selected Central Places

Growth Centre	Service Centres	Central Villages
1. Babina Cantt.	1. Raksa	1. Baidaura
	2. Kailar	2. Hasarigird
		3. Bijauli
		4. Khajuraha Bujurg
		5. Garhiyagaon
		6. Raja pura
		7. Lahargird
		8. Ghisauli
		9. Pali Pahari
		10. Manpur

Note : Name of the settlements identified as central places are given in map number - 3.

After identification of central places, one has to carry out further task of making choice of appropriate locations for developing socio-economic infrastructural facilities at these central places. This would help in percolating benefits of planned development to backward areas. This will, however, involve two major issues : first, identification of functional gaps at these central places and second, proposals for additional

functions/facilities required at these places for balanced regional development. One way of dealing with the first issue is to consider the level of hierarchy of a particular settlement. If a settlement falls in the lower level of hierarchy, it should have invariably those functions which are identified as necessary for that level. This argumentation will also hold good in case of settlements having medium and higher levels of hierarchy. Proposals for additional functions/facilities can be made on the basis of the identified functional gaps. Besides, for this purpose one may also have to take up local decisions based on the need of a particular area. Considering these, efforts have, therefore, been made to study this aspect, in details, in the context of each of the identified central places. The list of existing and proposed functions separately for each of the identified central places is given below :

Table - 4.6 : Existing and Proposed Functions/Facilities
For Finally Selected Central Places

Sl. No.	Central Place	Existing Functions	Proposed Functions
A. <u>Growth Centre</u>			
1.	Babina Cantt.	Primary School, Post Office, Private Medical Practitioner, Electricity, Pucca Road, Multi-purpose Cooperative Society, Controlled Cloth Shop, Stockman Centre, Junior High School, Bi-Weekly Market, Seed Distribution Centre, Bus Stop, A.I. Sub-Centre, Maternity-cum-Child Welfare Centre, Dispensary, Police Outpost, Chemist & Druggist Shop, Agricultural Implements Repairs Shop, Veterinary Hospital, Higher Secondary School, Commercial Bank, Family Welfare Centre, Cooperative Bank, Fertilizer and Pesticides Distribution Centre, Police Station, Post Office with Telephone, Telegraph Office, Regulated Market, Cinema Hall, A.I. Centre	Agriculture Service Centre, Cold Storage, Degree College
B. <u>Service Centres</u>			
1.	Raksa	Primary School, Post Office, Private Medical Practitioner, Electricity, Road, Multi-purpose Cooperative Society, Controlled Cloth Shop, Junior High School, Seed Distribution Centre, Bus Stop, A.I. Sub-Centre, Maternity-cum-Child Welfare Centre, Police Outpost, Police Station, Post Office with Telephone	Stockman Centre, Dispensary, Agricultural Implements Repairs Shop, Higher Secondary School, Commercial Bank

Sl. No.	Central Place	Existing Functions	Proposed Functions
2.	Khailar	Primary School, Post Office, Private Medical Practitioner, Electricity, Multi-Purpose Cooperative Society, Junior High School, Bi-Weekly Market Bus Stop, Road, Maternity-cum-Child Welfare Centre, Police Outpost, Veterinary Hospital, Commercial Bank	Controlled Cloth Shop, Seed Distribution Centre, A.I. Sub-Centre, Dispensary, Agricultural Implements Repairing Shop, Higher Secondary School, Post Office with Telephone, Cooperative Bank
<u>C. Central Villages</u>			
1.	Baidaura	Primary School, Post Office, Private Medical Practitioner, Multi-Purpose Cooperative Society, Stockman Centre, Junior High School, Seed Distribution Centre, Maternity-cum-Child Welfare Centre, Police Outpost	Road, Electricity, Controlled Cloth Shop, A.I. Sub-Centre
2.	Hansarigird	Primary School, Post Office, Private Medical Practitioner, Electricity, Multi-Purpose Cooperative Society, Controlled Cloth Shop, Junior High School, Road, Bus Stop, Police Outpost, Higher Secondary School, Commercial Bank	Seed Distribution Centre, Stockman Centre, A.I. Sub-Centre, Police Station, Post Office with Telephone
3.	Bijauli	Primary School, Post Office, Private Medical Practitioner, Electricity, Multi-Purpose Cooperative Society, Road, Bus Stop, Railway Station	Controlled Cloth Shop, Junior High School, Police Outpost, Maternity-cum-Child Welfare Centre
4.	Khajurahabujurg	Primary School, Post Office, Private Medical Practitioner, Multi-Purpose Cooperative Society, Junior High School, Railway Station	Electricity, Pucca Road, Police Outpost, Controlled Cloth Shop

Sl. No.	Central Place	Existing Functions	Proposed Functions
5.	Garhiyagaon	Primary School, Post Office, Electricity, Multi-Purpose Cooperative Society, Junior High School, Maternity-cum-Child Welfare Centre	Road, Controlled Cloth Shop, Police Outpost
6.	Rajapura	Primary School, Post Office, Multi-Purpose Cooperative Society, Junior High School, Maternity-cum-Child Welfare Centre	Road, Controlled Cloth Shop, Electricity, Seed Distribution Centre, Stockman Centre
7.	Lahargird	Primary School, Post Office, Private Medical Practitioner, Electricity, Multi-Purpose Cooperative Society, Road	Controlled Cloth Shop, Junior High School, Maternity-cum-Child Welfare Centre, Police Outpost
8.	Ghisauli	Primary School, Post Office, Private Medical Practitioner, Multi-Purpose Cooperative Society, Road, Bus Stop	Controlled Cloth Shop, Electricity, Junior High School, Seed Distribution Centre, Stockman Centre, Maternity-cum-Child Welfare Centre, Police Outpost
9.	Pali Pahari	Primary School, Electricity, Road, Bus Stop	Post Office, Controlled Cloth Shop, Junior High School, Seed Distribution Centre, Stockman Centre, Police Outpost, Maternity-cum-Child Welfare Centre
10.	Manpur	Primary School, Post Office, Road, Bus Stop	Electricity, Controlled Cloth Shop, Police Outpost, Maternity-cum-Child Welfare Centre

CHAPTER V

Proposed Programmes

Prior to suggesting programmes for further development of the area, it would be worth mentioning at the outset that proposals for development programmes have been given for the period of next five years. Second, the programmes, which have been selected for implementation purposes, are mainly based on the considerations of the availability of natural endowments and resource potentials, organisational and institutional structures, existing level of development and felt needs and aspirations of the local people. Third, efforts have also been made to observe functional integration among various sectors such as agriculture, irrigation, cooperatives, power and industries on the plea that a change in one sector brings about a change in other sectors and there is a concomitant change throughout the whole nexus. Fourth, the central places (i.e. growth centre, service centre and central village), which have been identified as focal points in chapter IV of this document, are considered to be the suitable locations for creation of socio-economic infrastructure and decentralised developmental activities. Lastly, in order to cope with the problem of prevailing unemployment and under-employment in the area, efforts have also been made through the present plan to select programmes/schemes in such a fashion that maximum possible employment opportunities could be created as a result of their implementation. In view of these considerations, sector-wise programmes proposed for implementation are mentioned below :

1. Agriculture

As stated earlier, agriculture occupies key position in the block economy and a slightly greater than two-third of the total workers are engaged in it for their livelihood. But agricultural productivity, in general, is extremely low, mainly because of lack of irrigation facilities, the low level of fertiliser consumption and the non-adoption of new cropping pattern and crop rotation. It is disheartening to note that in spite of the fact that the block is sparsely populated and average size of land holding is comparatively high, the total production of foodgrains is not sufficient to meet its total requirement of the existing population. Therefore, while suggesting programmes efforts have been made to augment the level of foodgrain production to the extent that block becomes self-sufficient in it during the period of next five years.

(i) Land Use Pattern : About 38 thousand ha. of land in Babina block is lying unproductive in the shape of culturable waste and fallow land. In view of the proposed programme of soil conservation, it is expected that about 3,500 ha. of additional land would be brought under cultivation during the period of next five years. It is also proposed to lay emphasis on augmentation of irrigation facilities, consumption of fertilisers, besides suitable modifications in cropping pattern and crop rotations. Hence the land use pattern as envisaged for the next five years would be as follows :

Table - 5.1 : Proposed Land Use Pattern

Sl. No.	Items	Area in Hectares
1.	Reporting area	71,553
2.	Forests	6,161
3.	Culturable waste	30,774
4.	Fallow land	3,422
5.	Barren and unculturable land	8,185
6.	Land under non-agricultural uses	2,962
7.	Pastures	445
8.	Area under orchards, misc. trees, groves, etc.	750
9.	Net area sown	18,853
10.	Area sown more than once	7,697
11.	Gross cropped area	26,550
12.	Intensity of cropping	140.8

Following the proposed land use pattern, it would be possible to increase the net area sown from 15,370 ha. to 18,853ha. This additional area under cultivation will be brought about partly from culturable waste and partly from fallow land through application of soil conservation measures.

(ii) Crop Rotations : The present intensity of cropping indicates that single cropping is usually in practice in Babina block. In irrigated areas, after harvest of paddy crop, wheat or gram is generally sown in Rabi season; whereas in unirrigated areas, the usual practice is to raise Jowar in Kharif and after its harvest no other crop is raised on such lands during Rabi. As a result of the proposed irrigation potential it is expected that there would be a significant increase in the gross cropped

area during the period of the next five years. Consequently, the intensity of cropping, which is at present about 131 per cent, will increase to 141 per cent during this period. To achieve this objective it would be essential to bring about suitable modifications in both the cropping pattern as well as crop rotations. Therefore, the following crop rotations are recommended for adoption in Babina block during the reference period.

- i. Maize followed by wheat with mustard.
- ii. Early paddy followed by wheat with mustard.
- iii. Jowar followed by gram with rape seed.
- iv. Maize followed by gram with rape seed.
- v. Maize, potato followed by vegetables.
- vi. Ground nut followed by wheat.
- vii. Maize, potato followed by M.P. chari.

In unirrigated areas, farmers will be persuaded to grow fodder crops in Kharif followed by Barley in Rabi. It is observed that cultivators in selected pockets of Babina with assured means of irrigation grow single crop of potato during the year. It would be desirable if crop rotations, like 'Maize followed by Potato', are practised by the farmers in such areas.

(iii) Area, Productivity and Production : With a view to augmenting the level of agricultural production and productivity efforts would be made to apply both extensive and intensive methods of cultivation. It is proposed to bring about additional

area of 3,500 ha. under cultivation through soil conservation measures and ensure timely supplies of agricultural inputs including irrigation facilities to the farmers in adequate quantity. Cumulatively, these factors will have favourable impact on agricultural production and productivity. The crop-wise area, production and productivity, which are proposed to be achieved during the period of next five years, are given in the following table :

Table - 5.2 : Area, Production and Productivity Proposed for the Period of Next Five Years

		Proposals under different crops for		
Sl. No.	Crops	Area (in ha.)	Productivity (in quintals)	Production (in quintals)
<u>A. Kharif</u>				
1.	Paddy	2,010	7.00	14,070
2.	Maize	4,450	7.80	34,710
3.	Jowar	300	8.80	2,640
4.	Moong	1,680	2.10	3,528
5.	Urd	1,450	2.20	3,190
6.	Arhar	550	7.50	4,125
7.	Others	1,970	2.75	5,417
Total		12,410	-	67,680
<u>B. Rabi</u>				
1.	Wheat	9,450	11.20	105,840
2.	Barley	2,565	8.75	22,444
3.	Gram	1,050	5.50	5,775
4.	Masoor	450	7.50	3,375
5.	Pea	150	7.25	1,087
6.	Oil seeds	225	3.00	675
7.	Potato	150	160.00	24,000
Total		14,040	-	163,196
<u>C. C-Zaid</u>				
1.	Maize	50	7.80	390
2.	Vegetables	50	3.50	175
Total		100	-	565
Grand Total (A+B+C)		26,550	-	231,441

Thus, the intensity of cropping, which was 131 per cent in the base year, would increase to 141 per cent at the end of 1985-86. Moreover, the percentage of area covered under Kharif, Rabi and Zaid to gross cropped area would increase to 46.74, 52.88 and 0.38 respectively. This would result in surplus of foodgrains to the tune of 19,955 quintals at the end of the plan, provided the productivity profile proposed for the plan period is fully achieved.

(iv) High Yielding Varieties : The coverage of area under high yielding varieties depends upon the availability of assured means of irrigation and the timely supplies of agricultural inputs particularly seeds, fertilisers and pesticides, besides mass publicity of the programme through field demonstrations. In view of the provisions of these facilities in the present plan, it is expected that the area under high yielding varieties will increase from 5,468 ha. in the base year to 7,875 ha. at the end of the plan. The targets for coverage of area under high yielding varieties are proposed as follows :

Table - 5.3 : Targets for Coverage of Area Under High Yielding Varieties

Sl. No.	High Yielding Variety	Area in Ha.
1.	Paddy	250
2.	Maize	50
3.	Jowar	75
4.	Wheat	7,500
	Total	7,875

Achievement of above targets would require adequate provision of seeds, fertilisers and pesticides, besides assured means of irrigation. According to package of practices, the requirements of seeds per ha. of high yielding varieties of paddy, maize, wheat and jowar are 18 kg., 15 kg., 100 kg. and 6 kg. respectively. Whereas the requirements of fertilisers per ha. for first three varieties are 80 kg. N_2 , 40 kg. P_2O_5 and 40 kg. K_2O and for jowar it is 60 kg. N_2 , 30 kg. P_2O_5 and 20 kg. K_2O . Thus, the total requirements of seeds and fertilisers for coverage of the targetted area along with the involvement of financial outlays would be as follows :

Table - 5.4 : Requirements of Seeds, Fertilisers and Outlays

Sl. No.	High Yielding Variety	Requirements (qnt.) of				Requirements (Rs. lakhs) of	
		Seeds	Fertilisers			Outlays	Subsidy
			N	P	K		
1.	Paddy	45.00	200	100.00	100	0.32	0.11
2.	Maize	7.50	40	20.00	20	0.27	0.09
3.	Wheat	7500.00	6000	3000.00	3000	52.95	17.65
4.	Jowar	4.50	45	22.50	15	0.24	0.08
Total		7556.00	6285	3142.50	3135	53.78	17.93

Uptill now the benefits of high yielding varieties programme have largely gone to the large and medium sized farmers and small and marginal farmers because of their less affording capacities have partially been benefited with it. Therefore,

with a view to propagating it among them it would be essential to provide them subsidy on purchase of seeds and fertilisers on the pattern of Small and Marginal Farmers Development Agencies. It would involve a provision of Rs.17.93 lakhs from the State sector for meeting the total cost of subsidy.

Since the high yielding varieties are susceptible to plant diseases it would be necessary to safeguard these varieties from such diseases through making adequate provision of plant protection medicines. An amount of subsidy required to meet the cost of soil treatment, seed treatment, weed control etc. is estimated to be Rs.65,000 from the State sector and the remaining Rs.1.30 lakhs will be arranged through people's participation.

With a view to publicising high yielding varieties among the villagers and enhancing their knowledge about the package of practices it is proposed to layout 50 field demonstrations of paddy, 10 of maize, 10 of jowar and 20 of wheat in the block, during the period of next five years. The size of each demonstration plot would be 0.4 ha. The requirements of agricultural inputs for carrying out the proposed field demonstrations would be as follows :

Table - 5.5 : Requirements of Agricultural Inputs for Proposed Field Demonstrations

Sl. Crop No.	No. of Demonstrations	Quantity Required per Demonstration (Kg.)					Cost per Demonstration (Rs.)				Total Cost of Demonstrations (Rs.)
		Seed	N	P	K	Pesti-cides	Seeds	Ferti-lisers	Pest-icides	Total	
1. Paddy	50	8	48	24	24	26.125	24	274	71	369	18,450
2. Maize	10	6	48	24	24	26.125	15	274	71	360	3,600
3. Jowar	10	2.5	35	16	16	26.125	5	192	71	268	2,680
4. Wheat	20	40	48	24	24	26.125	100	274	71	445	8,900

Field observations indicate that farmers, in general, will not come forward to layout these demonstrations simply on the basis of persuasion unless they are provided with some special incentives. It is, therefore, proposed to provide one-third subsidy to the participants on the total cost of each demonstration. This would require a provision of Rs.11,210 as a subsidy from the State sector, besides Rs.22,420 to be arranged through the institutional finance.

(v) Establishment of Mini Agricultural Service Centres :

A difficult terrain and uneven soil strata of the block do not allow farmers to make use of tractors in general. But some of the farmers, who are having large size of holdings, have already started using tractors and threshers in some pockets of the block where soil strata are comparatively even. Besides, the small and marginal farmers generally use persian wheels in

different areas for irrigation purposes. At present, there are 42 tractors, 208 iron ploughs, 102 blade and disc harrows, 96 wet and paddlers, 27 seed-cum-fertilizer drills and 52 power threshers in the block. But due to non-availability of Agricultural Service Centres, cultivators have to face lot of difficulties in getting their agricultural implements repaired. They have to go to Talbehat or Jhansi for repairs of their agricultural implements. Moreover, the small and marginal farmers fail to avail the benefits of mechanisation because they cannot afford to buy such costly implements. It is, therefore, proposed to establish three Mini Agriculture Service Centres one each at Babina, Khailar and Ruksa under State sector during the period of next five years. Hiring of agricultural implements and their repairs, selling of spare parts and repairs of pumping sets and persian wheels will be the main functions of these Centres. The details of agricultural implements, which would be made available at these centres, are given below :

Table - 5.6 : Provisions of Agricultural Implements
At Mini Agricultural Service Centres

Sl. No.	Agricultural Implements	Babina	Khailar	Ruksa
1.	Seed-cum-fertiliser drills	5	5	5
2.	Alpad threshers	5	3	5
3.	Tiphra	5	5	5
4.	Levelling implements	3	3	3
5.	Welding machines	1	1	1

Besides, each centre will also be provided with hammers, anvils and some other small tools.

The total outlay required for establishing the above Mini Agricultural Service Centres is estimated to be Rs.7.23 lakhs. Item-wise details of outlays required for establishing each centre are given below :

Table - 5.7 : Requirements of Outlays for Establishing Each of the Proposed MAS Centres

Sl. No.	Item	Requirements of Outlay (Rs.lakh)
1.	Land and Building	0.82
2.	Cost of implements	0.45
3.	Contingency	0.10
4.	Salaries and wages	0.69
5.	Insurance and other taxes (3% of capital cost)	0.03
6.	Other expenses (water and electricity)	0.06
7.	Repairs and maintenance	0.12
8.	Depreciation cost (10% of capital cost)	0.14
Total		2.41

(vi) Establishment of Seed Stores : The existing seed stores of the block are not adequate to ensure timely supplies of agricultural inputs to the farmers and interior pockets of the block are unserved with this facility. With a view to augmenting the levels of cropping intensity, agricultural productivity and production and the area under high yielding varieties, it is proposed to establish five agricultural seed stores one each at Khailar, Hansarigird, Rajapura, Chisauli and Pali Pahari central places during the plan period. The total outlay required for establishing these stores is estimated to be Rs.3.50 lakhs @ Rs.70,000 per seed store.

2. Soil Conservation

Soil erosion is the perennial problem of the area and nearly half of the agricultural land is adversely affected by it. This is also one of the main causes of low agricultural productivity. Considering seriousness of the problem, it is, therefore, proposed to bring about 3,500 ha. of land under cultivation through soil conservation measures during the period of next five years. For this purpose, it would be essential to deploy the services of soil conservation unit which is, at present, functioning at Jhansi. An outlay required for implementation of the proposed soil conservation programme is estimated to be Rs.42 lakhs @ Rs.1,200 per ha.¹

3. Irrigation

Irrigation plays the crucial role in augmenting the level of agricultural development. It encourages the cultivation of high yielding varieties and helps in increasing the cropping intensity as well as productivity of different crops. The creation of additional irrigation potential in a particular area depends solely upon the availability of ground water resources. Efforts have, therefore, been made to explore the possibilities of creation of additional irrigation potential in Babina block by assessing the availability of ground water resources, details of which are given below :

¹The cost per ha. of soil conservation is based on the suggestions forwarded by the In-charge, Soil Conservation Unit, Jhansi.

Table - 5.8 : Availability of Ground Water Resources
As on 31-3-1979 in Babina Block

Sl. No.	Particulars	Hectare Meters	% of Total Annual Recharge
1.	Total annual recharge	9,753.08	100.00
2.	Total draft	4,808.03	49.30
3.	Balance available for further utilisation	4,945.05	50.70

Source : Directorate of Ground Water Resources, U.P., Lucknow

It is derived from the above table that slightly greater than half of the total annual recharge is still available for creation of additional irrigation potential in Babina block.

The state irrigation works have almost no scope in the area because of uneven land, difficult terrains and hilly characteristics of the topography. Therefore, emphasis would be laid on creation of additional irrigation potential of 6,650 ha. through construction of masonry wells, persian wheels, bundhies and installation of pumping sets during the period of next five years. The physical targets proposed for different private minor irrigation works are given below :

Table - 5.9 : Physical Targets of Private Minor Irrigation Works

Sl. No.	Private Minor Irrigation Works	Physical Targets	
		Number	Irrigation Potential (in Ha.)
1.	Masonry wells	500	500
2.	Persian wheels	450	225
3.	Ground level pumping sets	400	800
4.	Pumping sets through borings	25	125
5.	Construction of Bundhies (ha.)	5,000	5,000
	Total	-	6,650

The total outlay required for creation of the above irrigation potential is estimated to be Rs.126.25 lakhs, out of which 25 per cent will be provided to the farmers in the shape of subsidy from the State sector, another 25 per cent will be contributed by the farmers, whereas the remaining 50 per cent will be arranged through the institutional finance.¹

Blasting and Revitalising of Well Unit

With a view to increasing the storage capacity of the existing wells as well as revitalising the wells out of service it is necessary to put side bores and develop new cracks. For this purpose, it would be necessary to set up a blasting and revitalising unit in Babina block. The unit will consist of one 35 HP tractor with trolley and one complete set of equipments used for blasting. To house the unit a shed of 20' x 15' would be required to be constructed at Babina headquarters. The proposed unit will involve an investment to the tune of Rs.1.87 lakhs. Since the commercial viability of such a unit is doubtful, it is proposed that the unit be set up by the Government. The unit would normally meet the blasting requirements of 300 wells annually. Hence it would be possible to maintain regular functioning of about 1,500 wells during the period of next five years.²

¹The prevailing rates of construction costs per unit of masonry wells, persian wheels and pumping sets are Rs.10,000, Rs.2,000 and Rs.7,000 respectively which have been taken into account for estimation of total outlays.

²The details of this scheme have already been incorporated in the 'Feasibility Report of Blasting and Revitalising of Well Unit in Babina Block', District Jhansi.

The total outlay required for creation of the above irrigation potential is estimated to be Rs.126.25 lakhs, out of which 25 per cent will be provided to the farmers in the shape of subsidy from the State sector, another 25 per cent will be contributed by the farmers, whereas the remaining 50 per cent will be arranged through the institutional finance.¹

Blasting and Revitalising of Well Unit

With a view to increasing the storage capacity of the existing wells as well as revitalising the wells out of service it is necessary to put side bores and develop new cracks. For this purpose, it would be necessary to set up a blasting and revitalising unit in Babina block. The unit will consist of one 35 HP tractor with trolley and one complete set of equipments used for blasting. To house the unit a shed of 20' x 15' would be required to be constructed at Babina headquarters. The proposed unit will involve an investment to the tune of Rs.1.87 lakhs. Since the commercial viability of such a unit is doubtful, it is proposed that the unit be set up by the Government. The unit would normally meet the blasting requirements of 300 wells annually. Hence it would be possible to maintain regular functioning of about 1,500 wells during the period of next five years.²

¹The prevailing rates of construction costs per unit of masonry wells, persian wheels and pumping sets are Rs.10,000, Rs.2,000 and Rs.7,000 respectively which have been taken into account for estimation of total outlays.

²The details of this scheme have already been incorporated in the 'Feasibility Report of Blasting and Revitalising of Well Unit in Babina Block', District Jhansi.

Implementation of the above mentioned programmes will help in achieving the overall target of additional agricultural production in the block during the period of next five years. The contribution of soil conservation, effective irrigation and double/multiple cropping to this additional target would be as follows :

Table - 5.10 : Contributions of Soil Conservation, Effective Irrigation and Double Cropping to Targetted Agricultural Production

Sl. Programmes No.	Physical Target (Ha.)	Production Norm (Per Ha.)(qtls.)	Achievement of Additional Agricultural Production (qtls.)
1. Soil conservation	3,500	1.24	4,340
2. Effective irrigation	5,652	4.00	22,608
3. Double/Multiple cropping	2,878	3.25	9,353
Total	-	-	36,301

Notes : 1. Production norms stated above are as prescribed by the Directorate of Agriculture, U.P.

2. Eighty five per cent of the proposed irrigation potential is treated as effective irrigation.

Thus, against the target of additional agricultural production of 35,660 quintals based on the productivity profile of next five years, contributions of the above measures would be to the tune of 36,301 quintals. This shows that the production norms used here for estimation purposes are by and large consistent with the yield rates of different crops envisaged for the period of next five years.

4. Animal Husbandry

The role of animal husbandry programme in developing allied activities and supplementing income of small/marginal farmers and landless labourers is most crucial. The livestock population helps in increasing the production of milk, meat and eggs, besides providing raw material for tanning and leather industry. In Babina block, the livestock population is comparatively high but productivity, in general, is extremely low. Majority of them are indigenous, underfed and lack proper health cover. Therefore, raising productivity per animal would be the main objective to be achieved through providing proper facilities of breeding and health cover and intensifying feeds and fodder development activities. Since accrual of benefits of artificial inseminations in terms of improvements in cattle breed is likely to take some time, priority will be given to the purchase of milch cattle and their distribution among the small/marginal farmers and landless labourers at the subsidised rates. The animal husbandry programmes proposed for implementation are as follows :

(i) Distribution of Milch Cattle : With a view to generating self-employment for the people of weaker section of society, the benefits of this scheme will be made available to the small/marginal farmers and landless labourers only. It is proposed to distribute 400 cows (Tharparkar) and 500 she-buffaloes (Murrah) among them in different areas of the block during the period of next five years. The total outlay required for purchase

of these animals is estimated to be Rs.23 lakhs,¹ out of which one-third would be provided to small/marginal farmers and landless labourers in the form of subsidy from the State sector and the remaining two-third will be arranged to them as a loan through institutional finance.

(ii) Veterinary Institutions : The existing veterinary institutions are not adequate to provide proper health cover to the present livestock population particularly in interior pockets of the block. It is, therefore, proposed to establish five stockman centres (one each at Ruksa, Hansarigird, Rajapura, Ghisauli and Pali Pahari) and three Artificial Insemination Sub-Centres (one each at Khailar, Baidaura and Hansarigird) in the block. The total outlay required for this purpose is estimated to be 3.55 lakhs @ Rs.50,000 per stockman centre and Rs.35,000 per Artificial Insemination Sub-Centre.

(iii) Fodder Development : At present, the milch cattle, in general, are underfed. A proper provision of nutritive feeds and fodders is essentially required with a view to bringing about a significant improvement in average milk yield. General economic conditions of small and marginal farmers do not allow them to invest money on fodder cultivation. Therefore, for successful implementation of fodder development programme it would be necessary to provide some special incentives to them during the plan period.

¹At the rate of Rs.2,000 per cow and Rs.3,000 per she-buffalo.

The area covered under fodder crops is, at present, almost negligible. It is, therefore, proposed initially to cover only 10 ha. of area under improved fodder crops in the block during the period of next five years. This will include 5 ha. of Berseem, 2 ha. of oat and 3 ha. of M.P. Chari. The seed rates per ha. prescribed for these fodder crops are 25 kg., 40 kg. and 40 kg. respectively. The prevailing prices of these respective fodder seeds per quintal are Rs.700, Rs.250 and Rs.350. It is proposed to provide 50 per cent subsidy on the cost of fodder seeds to the farmers and the remaining 50 per cent would be met by the farmers themselves. Thus, the total amount of money required for the payment of subsidy from the State sector would be approximately Rs.750.

(iv) Goat Development : Goat development programme has a wide scope in the area because of suitable climatic conditions and vast grazing facilities. Since the programme does not require huge amount of investment, small and marginal farmers can easily be persuaded for rearing of goats. The scheme of goat rearing is important not only because of production of additional milk for household consumption but also because of wide market for goat meat in the cantonment area of the block.

At present, there are about 19 thousand goats available in the block. But majority of them are of indigenous breed. Therefore, the main objective of the present scheme would be to improve the quality of goats and increase productivity of milk, ghee and meat. This will require supply of improved Jamunapari

goats to small/marginal farmers and landless labourers. It is proposed to cover 15 villages of goat concentration in whole of the block. The total number of goats to be supplied to 300 participants of these villages is 900 at the rate of 3 goats per participant, besides distribution of 18 bucks for natural service.

The total outlay required for carrying out this scheme is estimated to be Rs.3.69 lakhs at the rate of Rs.400 per goat and Rs.500 per buck. Fifty per cent of the total outlay will be provided to participants in the shape of subsidy from the State sector and the remaining 50 per cent will be arranged through institutional finance.¹

(v) Poultry Farming : The main objective of this scheme is to initiate poultry farming activity in the block on commercial lines. Babina is a growing market centre and there is enough demand for eggs as well as poultry birds because of military cantonment in its neighbourhood and its direct connections with rail and road heads.

The project envisages to set up 20 poultry farms of 100 birds each spread over four villages, namely Khailar, Baidaura, Babina and Ruksa which are found to be suitable for this purpose because of being well connected with supply and marketing centres. In view of the proposed programmes, these villages will be better served with veterinary services during the period of next five years.

¹ Details of this scheme are given in the 'Feasibility Report of the Goat Rearing Project in Babina Block', Jhansi.

Setting up a unit of poultry farm would require construction of a poultry shed (about 200 sq. ft. in area), purchase of some equipments like feeders, waterers, egg laying boxes, trays, etc. and purchase of 115 day old chicks (females) suitable for developing into quality layers. Deep litter system would be used for rearing of birds.

Each unit will involve an expenditure of Rs.3,100 for construction of poultry shed (200 sq. ft.) and purchase of equipments. Another initial cost component would be of the order of Rs.2,200 for purchase of 115 chicks and their maintenance during the first six months. Thus, the total outlay required for setting up a unit would be Rs.5,300 and for the whole project it would be approximately Rs.1.07 lakh. Out of this total outlay, 75 per cent of the fixed capital will be provided to the participants in the shape of loan through institutional finance and the rest 25 per cent will be given in the shape of subsidy from the State sector. The cost of purchase of chicks and their maintenance will be borne by the participants themselves.¹

5. Fisheries

An implementation of fisheries development programme on scientific lines can prove to be very effective in ameliorating the economic conditions of the people living below poverty line. In view of the availability of good potential for pisciculture,

¹Details of this project are given in the 'Feasibility Report of Poultry Farming in Babina Block', Jhansi.

it would be worthwhile to reorganise the whole pisciculture programme by way of forming Fishermen Cooperative Societies, better stocking and distribution of fingerlings and providing proper marketing facilities for fish production. For this purpose, it would be essential to establish three Fishermen Cooperative Societies one each at Khailar, Ruksa and Baidaura. These societies will be entrusted with the responsibility of deepening and improvement of tanks/ponds, stocking of fingerlings and collection of fish. This programme in the initial stages will be carried out in 15 hectares of water area during the plan period. A sum of Rs.1.05 lakhs will be required for deepening and improvement of tanks/ponds at the rate of Rs.7,000 per ha. of water area. An amount of Rs.9,000 will also be provided to the societies for purchase of boats, nets, etc., besides Rs.45,000 for stocking of fingerlings, transportation and marketing. Thus, the total outlay required for this purpose comes to Rs.1.59 lakhs, out of which Rs.0.53 lakh will be given in the shape of subsidy from the State sector and the remaining Rs.1.06 lakhs will be arranged through cooperatives.

With a view to augmenting the level of fish production it would be essential to ensure timely supply of fingerlings to these societies from the nearby Government Fish Production Farm. This will enable to enhance its production to the order of about 30 quintals.

6. Cooperatives

The existing cooperative institutions are sufficient to cater to the credit needs of the people in the block. But as stated earlier, there is no cold storage in the block. Raising of potato, green vegetables, fruits, etc. has now started gaining popularity in the area and the farmers, who are having facilities of assured irrigation, have started production of these varieties on commercial lines. Therefore, with a view to providing proper storage facilities to the farmers it would be essential to establish one cooperative cold storage at Babina during the plan period. An amount of money required for establishing it is estimated to be Rs.5 lakhs which would be arranged through cooperative sector.

7. Industrial Development

Through previous efforts in the direction of industrial development it has not been possible to develop industrial base in Babina block. To boost up industrial activities in the area, it would, therefore, be necessary to lay emphasis on maximum possible exploitation of natural, human and other local resources. Secondly, the infrastructural facilities like power, road and transport, which are prerequisites for industrial development, will have to be given due weightage for setting up new industrial units. Thirdly, the central places identified in the present case will be taken into account while determining specific locations for setting up proposed industrial units. Lastly, emphasis would be laid on developing small scale, Khadi and Village Industries which could generate both income

and employment opportunities to the local people. The details of the proposed industrial units are as follows :

(i) Small Scale Industries : In all 30 industrial units are proposed to be established at suitable places in Babina block during the period of next five years. The distribution of these industrial units, their locations and the requirement of investment are given in Table - 5.11.

Table - 5.11 : Locations of Proposed Industrial Units and the Requirement of Investment

Sl. Industrial Units No.	Locations and Proposed Units						Investment required (Rs. lakhs)
	Babina	Ruksa	Khair- lar	Pali Pahari	Baid- aura	Lah- arg- ird	
1. Spice Grinding	1	1	1	-	-	-	3.30
2. Ginger Dehydration	1	-	1	-	-	-	2.10
3. Oil Expeller	1	-	1	-	-	-	2.20
4. Saw Mill	1	1	1	1	-	-	7.40
5. Wooden Furniture	1	1	1	-	-	-	3.75
6. Bone Mill	1	-	-	-	-	-	3.86
7. Pharmaceutical Drugs	1	-	1	-	-	-	1.20
8. Steel Furniture	1	-	1	-	-	-	3.00
9. Agri. Implements	1	-	1	-	-	-	2.20
10. Stone Crushing	-	-	-	1	-	-	4.54
11. Printing Press	1	-	1	-	-	-	1.40
12. Electroplating	1	-	-	-	-	-	2.50
13. Lens Grinding	1	-	-	-	-	-	1.20
14. Cottage Matchbox	1	-	1	-	-	-	1.30
15. Brick Kiln	-	-	-	-	1	1	3.02
Total	13	3	10	2	1	1	42.97

Out of the total outlay of Rs.42.97 lakhs, Rs.24.50 lakhs will be needed for purchase of machines and equipments, Rs.12.47 lakhs for purchase of raw materials and Rs.6.00 lakhs for other working capital.

(ii) Khadi and Village Industries : Besides, under Khadi and Village Industries sector, the number of industrial units proposed is 47. Industry-wise locations of these units are proposed as follows :

Table - 5.12 : Locations of Proposed Khadi and Village Industries

Sl. No.	Khadi and Village Industries	Locations with Number				
		Babina	Ruksa	Khailar	Baidaura	Bijauli
1.	Soap Industry	1	-	1	-	-
2.	Village Oil Industry	-	2	2	1	1
3.	Leather Industry	4	3	3	2	2
4.	Pottery Industry	4	4	4	1	1
5.	Carpentry and Smithy	1	1	1	1	1
6.	Lime Industry	1	1	1	1	-
7.	Match Box Industry	-	1	1	-	-
Total		11	12	13	6	5

For establishing the above proposed industrial units all types of financial and technical assistance will be provided by the Khadi and Village Industries Board.

8. Roads

An efficient system of road infrastructure is prerequisite for balanced regional development of a particular area. As

stated earlier, Babina is better served with pucca road facility as compared to the district. But interior pockets of the block are still deprived of road facility. Even some of the identified central places like Baidaura, Khajuraha Bujurg, Garhiyagaon and Rajapura are not linked with pucca road. Therefore, the strategy for the development of road infrastructure, in the present context, would be to provide link roads in such a manner that deprived central places are connected by pucca road and backward areas are also served with this facility. This would require construction of 38 kms. of Kankar road, details of which are as follows :

Table - 5.13 : Proposed Roads

Proposed Roads	Length in Kms.
1. Babina - Burpura	8
2. Baidaura - Toonka	6
3. Baidaura - Mathurapura	6
4. Khajuraha Khurd - Toonka	6
5. Ruksa - Rajapura	8
6. Garhiyagaon - Balora	4
Total	38

The total outlay required for construction of the above roads is estimated to be Rs.22.80 lakhs at the rate of Rs.60,000 per km. Through construction of proposed roads the number of villages connected by pucca roads will increase from 12 to 31 in the block during the period of next five years.

9. Power

In view of the overwhelming importance of power in both the agricultural and industrial production it is proposed to carry out construction of 30 kms. of H.T. lines and 16 kms. of L.T. lines in Babina block during the period of next five years. Having achieved these targets, the length of H.T. lines and L.T. lines, which are at present, 85 kms. and 90 kms. respectively, will correspondingly increase to 115 kms. and 106 kms. District authorities have already submitted these proposals to Rural Electrification Corporation for approval and sanction of money.

As stated earlier, out of total 74 villages only 11 villages/Harijan Basties have been electrified so far. It is proposed to electrify 20 additional villages in different areas of the block during the period of next five years. Hence the total number of villages electrified would become 31. The priority will be given to those villages which have been identified as central places and are still deprived of this facility. These central places are Baidaura, Khajuraha Bujurg, Rajapura, Chisauli and Manpur. A sum of Rs.2.60 lakh will be required to carry out the rural electrification programme in the block during the period of next five years.

10. Education

Education has to play a significant role in development of a particular area. Higher education encourages more willingness

among the people for adoption of new programmes based on modern technology. In Babina block, on an average, every village has got primary school. But other educational institutions existing in the block are not adequate to meet the total requirement of the growing population. It is, therefore, proposed to establish 4 senior basic schools one each at the central places of Bijauli, Lahargrid, Chisauli and Pali Pahari. Moreover, Ruksa and Khailar, which have been identified as service centres, do not have any higher secondary schools. Taking into account the requirement of the area it is proposed to establish two higher secondary schools one each at these centres. Thus, the strength of higher secondary schools in the block would become 4 at the end of plan period. Then, after five years there would be need to set up one degree college at Babina in order to accommodate passed out students of these inter colleges.

The total outlay required for establishing 4 senior basic schools and 2 higher secondary schools is estimated to be Rs.13.48 lakh at the rate of Rs.1.37 lakh per senior basic school and Rs.4 lakhs per higher secondary school.

11. Medical and Health

Existing medical and health institutions are not sufficient to provide proper health cover to the present population. There are 4 Maternity-cum-Child Welfare Centres (MCWC) which are not evenly distributed in the block and certain areas are completely deprived of this facility. It is, therefore, proposed to esta-

blish another 4 MCWCs, one each at Khajuraha Bujurg, Bijauli, Chisauli and Budpura, besides one dispensary at Khailar. A sum of Rs.3.25 lakhs will be needed to establish these centres during the period of next five years.

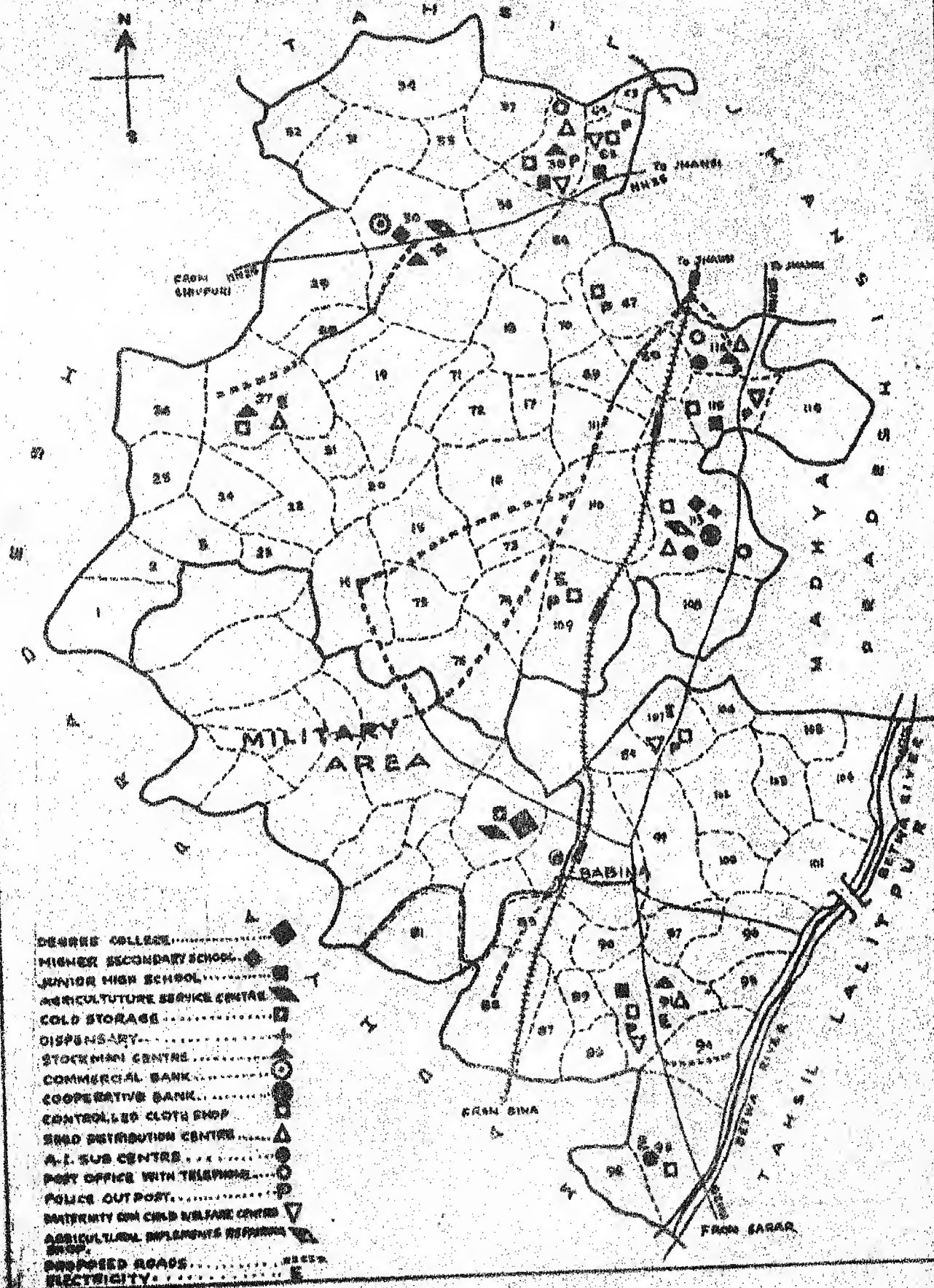
12. Drinking Water Supply

As stated earlier, out of 74 villages, 30 villages have to face difficulty in getting constant water supply during summer and the remaining 4 villages do not have this facility at all. Hence, the number of villages which do not have proper potable water supply comes to 34. During the period of next five years it is proposed to saturate whole of the block with drinking water facility through carrying out a programme for construction of masonry wells in these villages. Out of these 34 villages, each village is proposed to be provided with two drinking water wells and hence in all 68 masonry wells are proposed to be constructed in the block during the plan period. The total outlay required for construction of proposed wells is estimated to be Rs.6.80 lakhs, out of which 50 per cent is to be provided in the form of subsidy from the State sector and the remaining 50 per cent will be contributed by the participants.

The proposals for development of socio-economic infrastructure are given in map number - 4.

BABINA BLOCK - JHANSI U.P. PROPOSED FUNCTIONS/FACILITIES

MAP - 4



CHAPTER VI

Plan Implementation and Scope of Employment

One of the main objective of our planned development programme is to bring about qualitative improvement in the life of the rural poor through reducing unemployment and poverty. Within the framework of this objective, efforts have been made in the present plan of Babina block to generate maximum possible employment opportunities through proper exploitation of physical, natural and human resources. It would, therefore, be relevant in the present context to quantify the extent to which the problem of un- and under-employment would be reduced as a result of implementation of this plan. For this purpose, the estimates of total population, labour force, workers employed and the backlog of unemployment have been worked out, besides the estimation of additional employment likely to be generated. The details of the methodology adopted for this purpose are given below :

1. The annual growth rate of population in Babina block during the period 1961-71 was 2.02 per cent. The adoption of family planning measures is expected to pull down this population growth to some extent. It is, however, guardedly presumed that the population of Babina block will increase somewhat at the prevailing rate of growth during the period 1972-86. Therefore, the estimates of population for the years 1977-78, 1980-81 and 1985-86 have been worked out following the growth rate of 2.02 per cent per annum.

2. Truly speaking, the labour force should be constituted by the workers employed and those seeking employment. However, in view of the non-availability of such data, the participation ratio¹ of Jhansi district (i.e. 37.29 per cent) has been used in the present case to work out estimates of labour force for Babina block during the years 1977-78, 1980-81 and 1985-86.

3. The estimates of workers employed have been prepared by subtracting the number of unemployed from the total labour force for the year 1977-78.² Moreover, the estimates of workers employed for the years 1980-81 and 1985-86 have been worked out following the ratio of 1977-78 for the same. And the backlog of unemployment for the year 1980-81 has also been worked out by subtracting the total workers employed from the total labour force.

With a view to working out the estimates of sector-wise and scheme-wise additional employment likely to be generated as a result of implementation of the present plan, employment norms given in 'National Commission on Agriculture' (NCA)³ have been suitably modified taking into account the topography and other physical conditions of the block. Moreover, some of the norms (used in the present case), which are not available in NCA, have

¹Manpower Division, State Planning Institute, Lucknow.

²Figures of unemployed are based on the primary investigations carried out at the household level on Census basis in the villages of Babina block.

³National Commission on Agriculture, 1976, Part III, Rural Development and Special Area Programmes, Government of India, Ministry of Agriculture and Irrigation, New Delhi.

also been developed by holding discussions with the officers of the concerned departments at the State headquarters.

5. The additional labour force likely to be generated during the period 1981-86 has been added to the backlog of unemployment of 1980-81 to work out the total number of jobs required at the end of 1985-86. Then, the additional employment likely to be generated as a result of implementation of the present plan has been deducted from the total number of jobs required in order to find out the net backlog of unemployment at the end of 1985-86.

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The estimates of total population, labour force, workers employed and backlog of unemployment for Babina block during the years 1977-78, 1980-81 and 1985-86 are given in the following table :

Table - 6.1 : Estimates of Population, Labour Force, Workers Employed and Backlog of Unemployment

Sl. No.	Item	Y e a r s		
		1977-78	1980-81	1985-86
1.	Total population	35,795	94,275	104,172
2.	Labour force	33,112	35,155	38,846
3.	Workers employed	28,912	30,697	35,333
4.	Backlog of unemployment	4,200	4,458	3,513

Thus, as a result of implementation of the present plan, there is likelihood for significant reduction in unemployment and underemployment of Babina block during the period of next

five years. The percentage of unemployed to total labour force, which was 12.68 in 1980-81, is likely to reduce to 9.04 per cent at the end of 1985-86. The sector-wise estimates of employment likely to be generated through implementation of the present plan are given in the following table :

Table - 6.2 : Sector-wise Estimates of Additional Employment

Sl. No.	Sector	Number of Persons Likely to get Employment
1.	Agriculture	706
2.	Soil Conservation	997
3.	Minor Irrigation	1,675
4.	Animal Husbandry	241
5.	Fisheries	23
6.	Cooperatives	7
7.	Industries	244
8.	Roads	646
9.	Power	17
10.	Education	64
11.	Medical and Health	16
Total		4,636

The scheme-wise estimates of employment for different sectors of the economy for the period of next five years alongwith the physical targets and the prescribed norms are given in Appendix - II.

CHAPTER VII

Financial Implications

The main objective of the present integrated area development plan is to generate maximum possible employment opportunities through proper exploitation of the existing physical, natural and human resources so as to bring about significant reduction in the levels of poverty, unemployment and inequality. To achieve this objective, efforts have been made through the present plan to develop infrastructural facilities at appropriate locations (i.e. Central places) which would help in ensuring proper supplies of inputs for augmenting the levels of both agricultural and industrial productions. Moreover, the programmes and schemes selected for implementation purposes are basically employment oriented and have been designed in such a fashion that their larger benefits would go down to the weaker sections of society. Besides, maximum possible coordination has been sought from the local people for better implementation of the proposed programmes by way of making provisions of special incentives in the form of grants and subsidies.

The total outlay required for implementation of the proposed programmes in Babina block for the period of next five years is estimated to be Rs.366.73 lakhs, out of which Rs.174.99 lakhs would be provided from the State sector, Rs.143.42 lakhs through institutional finance and the remaining Rs.48.32 lakhs will be contributed by the local people. The sector-wise requirements of financial outlays are given in the following table :

Table - 7.1 : Sector-wise Requirement of Financial Outlays

(Rs. lakh)

Sl. No.	Sector	Requirement of Financial Outlays for the Period of Next Five Years			Total
		State Sector	Institutional Finance	People's Participation	
1.	Agriculture	29.42	36.07	1.30	66.79
2.	Soil Conservation	42.00	-	-	42.00
3.	Minor Irrigation	33.43	63.13	31.56	128.12
4.	Animal Husbandry	13.34	17.99	-	31.33
5.	Fisheries	0.53	-	1.06	1.59
6.	Cooperatives	-	-	5.00	5.00
7.	Industries	10.74	26.23	6.00	42.97
8.	Roads	22.80	-	-	22.80
9.	Power	2.60	-	-	2.60
10.	Education	13.48	-	-	13.48
11.	Medical and Health	3.25	-	-	3.25
12.	Drinking water supply	3.40	-	3.40	6.80
Total		174.99	143.42	48.32	366.73

The scheme-wise break-up of the above sectoral outlays is given in Appendix - III.

CHAPTER VIII

Organisational Set Up

The implementation of this operational plan will require well equipped planning as well as implementation machinery at the block level. The main functions of the present staff posted at the block level are : first, to assist in plan formulation and second to carry out implementation of different programmes and schemes at the village level. So far as assistance in plan formulation is concerned, besides Block Development Officer, there is one Assistant Development Officer (Statistics). His main function/duty is to collect data regarding the achievements of different sectors from village level workers and to carry out spot verification of the reported progress. Besides, he keeps the records of plan programmes and assists Block Development Officer (BDO) in sending regular progress reports. The staff available at the block and village levels for planning and implementation purposes are shown in the following table :

Table - 8.1 : Availability of Staff for Planning and Implementation in Babina Block During 1978-79

Sl. No.	Designation	Number (1978-79)
1.	Block Development Officer	1
2.	Medical Officer	1
3.	Veterinary Officer	1
4.	Assistant Development Officers*	5

Sl. No.	Designation	Number (1978-79)
5.	Senior Health Inspector	1
6.	Compounder	1
7.	Village Level Workers	10
8.	Panchayat Secretary	8
9.	Stockmen	2
10.	Lady Health Visitor	1
11.	Family Planning Health Assistants	4
12.	Family Welfare Workers	2
13.	Midwife	4
14.	Driver	1

*One each in agriculture, statistics, cooperative, panchayat and minor irrigation

In fact, planning at the block level is primarily in physical terms which is to be correlated with economic planning for the development of existing natural resources and other potentialities. Therefore, this planning machinery is expected to have complete knowledge of the available physical resources and their alternative uses with a thorough understanding of the local people and their aspirations. Since Block Development Offices, in general, are now functioning as centres for supplies of agricultural and other necessary inputs, their association with the field is gradually reducing. Moreover, it is also observed that planning machinery available at the block level is not suitably equipped to perform all the technical planning functions and generally lack expertise. On the other hand,

there is a definite change in their predilections because of bleak chances of their promotional avenues which have made them reluctant towards field visits.

For an effective implementation of the proposed programmes, it would, therefore, be imperative to tone up the general administration both at the block and village levels and issue special instructions to field workers for proper compliance of the Government orders regarding the field visits. Moreover, with a view to developing planning and implementation capabilities of the block functionaries, they would also require special training in the techniques of area development, project formulation and appraisal, monitoring and evaluation.

With a view to bringing about an efficacy in implementation it would also be necessary to constitute a block level advisory committee with more or less the same membership as for the Panchayati Raj Institutions. Besides, this committee should also include block officials of key disciplines (agriculture, irrigation, cooperative, statistics) and representatives of weaker sections of the society.

The main function of the above committee would be to provide effective coordination in implementation of various programmes at the grassroots level. The committee will also provide an opportunity of greater interaction between the administration and the people which, in turn, will help in

reducing the gaps of communication and motivation. Moreover, Panchayati Raj Institutions should be given a substantial degree of freedom and initiative in the implementation of different schemes for effective involvement of various agencies/people in the overall process of development.

APPENDICES

Appendix - I

Village-wise Availability of Functions/Facilities
in Babina Block

(Number)

Sl. No.	Settlements	Population	Primary School	Post Office	Private Medical Practitioner	Electricity	M.P. Co-operative Societies	Controlled Cloth Shop	Stockman Centre	Senior Basic School	Bi-Weekly Market	Seed Distribution Centre
0	1	2	3	4	5	6	7	8	9	10	11	12
1.	Babina Cantt.	13,275	3	1	8	1	1	1		3	1	2
2.	Babina Rural	993	4			1	1	1		1		
3.	Pura	623	1									
4.	Koti	434	1									
5.	Naya Khera	862	1									
6.	Sekhar	329										
7.	Kankuwan	626	1									
8.	Rasoi	688	1									
9.	Manpur	777	1	1								
10.	Baidaura	2,295	1	1	1		1		1	1		1
11.	Murari	513	1									
12.	Chamrauha	2,167	1		1							
13.	Gurha	325	1									
14.	Dongri	302										
15.	Baghaura	1,050	1									
16.	Nauhra	441	1									
17.	Badira	1,164	1									
18.	Guawli	724	1			1						
19.	Khandi	629	1									
20.	Baipur	534	1									
21.	Hirapur	1,247	1									
22.	Ghisauli	1,203	1	1	1		1					
23.	Budpura	1,793	1	1		1						
24.	Rajapura	1,423	2	1			1			1		
25.	Dagarwaha	801	1	1								
26.	Ramair	650	1									
27.	Bajna	962	1									

Contd.

Appendix - I
(contd.)

0	1	2	3	4	5	6	7	8	9	10	11	12
28. Bachhauni		632	1									
29. Math		831	1									
30. Rampura		477	1									
31. Sarwan		1,082	1									
32. Khajuraha Khurd		997	1	1								
33. Kilchuwara Khurd		1,042										
34. Khajuraha Bujurg		1,981	2	1	1		1			1		
35. Kilchuwara Bujurg		747	1									
36. Hansarigird		4,633	1	1	5	1	1	2		1		
37. Belaura		677	1			1						
38. Garhiyagaon		2,963	1	1		1	1					
39. Pali Pahari		1,266	1			1						
40. Athodana		1,246	1									
41. Pathari		631	1									
42. Lahargird		1,692	1	1	1	1	1					
43. Nayagaon		317										
44. Dhandhari		46										
45. Khailar		2,890	2	2	5	1	1			1	1	
46. Simrawari		769	1									
47. Safa		1,061	1									
48. Mathurapura		2,164	1	1								
49. Bijauli		2,574	1	1	3	1	1					
50. Dagaria Dund		344	1		1							
51. Sanyar		1,543	1									
52. Imilia		761	1									
53. Amarpur		882	1									
54. Gagaun		280	1									
55. Punaoli Khurd		478										
56. Badanpur		435	1									
57. Basai		674	1									
58. Khaira		895	1									

Contd.

Appendix - I
(contd.)

0	1	2	3	4	5	6	7	8	9	10	11	12
59. Parasai		429	1									
60. Baruwapura		662	1									
61. Ganeshpur		446	1									
62. Thakurpura		795	1									
63. Lahar Sakapura	1,074		1									
64. Simaria		796	1									
65. Rasina	1,005		1									
66. Sukwan		417	1									
67. Ruksa	4,370		2	1	4	1	1	1		1		1
68. Pansuli Kala	1,843		1	1								
69. Katkhera		553	1									
70. Dilauli		1,021	1									
71. Domogar		545	1									
72. Balsura		1,300	1									
73. Palinda		863	1									
74. Sajwaha		754	1									
75. Bhadari		46										
Total	77,214*	74	18	31	12	12	5	1	11	2	4	
Weights	-	1	4	2	6	6	15	74	7	37	19	

* Excluding urban population of Babina Cantt.

Appendix - I

Sl. No.	Bus Stop	A.I. Sub-Centre	M.C.W Centre	Dispensary	Police Out-post	Chemist & Druggist	Agri. Implements Repair Shop	V. Hospital	Higher Secondary School	Commercial Bank	Family Welfare Centre	Primary Health Centre	Road
0	13	14	15	16	17	18	19	20	21	22	23	24	25
1.	1		1	2		4	1	1	2	3	1	1	1
2.	1												1
3.													1
4.													
5.	1												1
6.													
7.													1
8.	1												1
9.	1												1
10.			1		1								
11.													
12.													
13.													
14.													
15.													1
16.													1
17.	1												
18.													
19.													
20.													
21.													1
22.	1												
23.													
24.			1										
25.	1												1
26.													
27.													

Contd.

Appendix - I

	0	13	14	15	16	17	18	19	20	21	22	23	24	25
28.														
29.														
30.														
31.														
32.														
33.														
34.														
35.														
36.		1				1				1	1			1
37.		1												1
38.				1										1
39.		1												
40.														
41.														1
42.														
43.														
44.														
45.		1		1		1			1		2			1
46.		1												1
47.														
48.														
49.		1												1
50.														
51.														
52.														
53.														
54.														
55.														
56.														
57.														
58.														

Contd.

Appendix - I

	0	13	14	15	16	17	18	19	20	21	22	23	24	25
59.														
60.														
61.														
62.														
63.														
64.														
65.														
66.														
67.		1	1	1		1								1
68.														
69.														
70.														
71.														
72.														
73.														1
74.		1												
75.														
Total	16	1	6	2	4	4	1	2	3	6	1	1	20	
Weights	5	74	12	37	18	18	74	37	25	12	74	74	4	

Appendix - I

Sl. No.	Railway Station	Hospital	Fertilizer & Pesticides Dist. Centre	Cooperative Bank	Police Station	Post Office with Telephone	Telegraph Office	Cold Storage	Regulated Market	Cinema Hall	Degree College	AI Centre	Centrality Score
0	26	27	28	29	30	31	32	33	34	35	36	37	38
1.	1		1	1	1	1	1		1	2		1	1349
2.													46
3.													5
4.													1
5.													10
6.													
7.													5
8.													10
9.													14
10.													143
11.													1
12.													3
13.													1
14.													
15.													1
16.													5
17.													10
18.													7
19.													1
20.													1
21.													1
22.													22
23.													11
24.													31
25.													14
26.													1
27.													1

Contd.

Appendix - I

0	26	27	28	29	30	31	32	33	34	35	36	37	38
28.													1
29.													1
30.													1
31.													1
32.													5
33.													
34.	1												46
35.													1
36.													128
37.													16
38.													36
39.													16
40.													1
41.													1
42.													23
43.													
44.													
45.													176
46.													10
47.													1
48.													5
49.	1												57
50.													5
51.													1
52.													1
53.													1
54.													1
55.													
56.													1
57.													1
58.													1

Contd.

Appendix - I

0	26	27	28	29	30	31	32	33	34	35	36	37	38
59.													1
60.													1
61.													1
62.													1
63.													1
64.													1
65.													1
66.													1
67.					1	1							254
68.													5
69.													1
70.													1
71.													1
72.													1
73.													1
74.													10
75.													
Total	3		1	1	2	2	1		1	2		1	
Weights	25		74	74	37	37	74		74	37		74	

Appendix - II

Scheme-wise Estimates of Additional Employment for Different Sectors

Sl. No.	Sector/Scheme	Unit	Physical Targets	Selected Norms	No. of Persons likely to get employment
0	1	2	3	4	5
1.	<u>Agriculture</u>				
i.	Additional area to be brought under double/multiple cropping	Ha.	2878	1 person per 8ha.	575
ii.	Coverage of additional area under high yielding varieties	Ha.	2407	1 person per 26 ha.	93
iii.	Establishment of Seed Stores	No.	5	4 persons per store	20
iv.	Establishment of Mini Agriculture Service Centres	No.	3	6 persons per centre	18
	Total				706
2.	<u>Soil Conservation</u>				
i.	Area to be brought under cultivation through Soil Conservation measures	Ha.	3500	285 persons per 000 ha.	997
	Total				997
3.	<u>Minor Irrigation</u>				
i.	Additional Irrigation potential to be created through private minor irrigation works	Ha.	6650	i. Construction of minor irrigation works @ one person per 4 ha. ii. One person per 500 ha. for operation and maintenance	1662 13
	Total				1675

Appendix - II

0	1	2	3	4	5
<u>4. Animal Husbandry</u>					
i. Distribution of improved				1 person per	
a) Cows	No.	400		5 cows	80
b) She-buffaloes	No.	500		1 person per	
				5 she-buffaloes	100
c) Goats	No.	900		1 person per	
				40 goats	22
ii. Establishment of A.I. Sub-centres	No.	3		3 persons per	
				A.I. sub-centre	9
iii. Establishment of Stockman Centres	No.	5		2 persons per	
				Stockman centre	10
iv. Establishment of Commercial Poultry Unit of 100 birds	No.	20		1 person per 100	
				poultry birds	20
Total					241
<u>5. Fisheries</u>					
i. Formation of Fishermen Cooperative Societies	No.	3		5 persons per	
				society	15
ii. Deepening and Improvement of Ponds	Ha.	15		1 person per	
				2 ha.	8
Total					23
<u>6. Cooperatives</u>					
i. Establishment of Cooperative Cold Storage	No.	1		7 persons per	
				cold storage	7
Total					7
<u>7. Industries</u>					
i. Establishment of Small Scale Industries Units	No.	30		5 persons per unit	180
ii. Establishment of Khadi and Village Industries	No.	47		2 persons per unit	94
Total					244

Appendix - II

0	1	2	3	4	5
<u>8. Roads</u>					
i. Construction and Maintenance of Pucca Roads	Kms.	38	17 persons per Km. for construction and maintenance		647
Total					647
<u>9. Power/Electricity</u>					
i. Construction of H.T./L.T. lines	Kms.	46	1 person per 2.75 km. of H.T./L.T. Lines		17
Total					17
<u>10. Education</u>					
i. Establishment of Junior High Schools	No.	4	8 persons per school		32
ii. Establishment of Higher Secondary Schools	No.	2	16 persons per school		32
Total					64
<u>11. Medical and Health</u>					
i. Establishment of Dispensaries (Allopathic)	No.	1	4 persons per dispensary		4
ii. Establishment of Maternity-cum-Child Welfare Centres	No.	4	3 persons per centre		12
Total					16
GRAND TOTAL					4,636

Appendix - III

Scheme-wise Break-up of Sectoral Outlays

Sl. No.	Sector/Scheme	Requirement of Outlays for the Period of Next Five Years (Rs. Lakh)			
		State Sector	Institutional Finance	People's Participation	Total
0	1	2	3	4	5
<u>1. Agriculture</u>					
i.	Distribution of Seeds and fertilizers	17.93	35.85	-	53.78
ii.	Distribution of plant protection medicines	0.66	-	1.30	1.95
iii.	Field demonstrations of paddy, maize, jowar and wheat	0.11	0.22	-	0.33
iv.	Establishment of Mini Agriculture Service Centres	7.23	-	-	7.23
v.	Establishment of seed stores	3.50	-	-	3.50
	Total	29.43	36.07	1.30	66.79
<u>2. Soil Conservation</u>					
i.	Area to be brought under cultivation through soil conservation measures	42.00	-	-	42.00
	Total	42.00	-	-	42.00
<u>3. Minor Irrigation</u>					
i.	Construction of masonry wells	12.50	25.00	12.50	50.00
ii.	Provision of persian wheels	2.25	4.50	2.25	9.00
iii.	Installation of Pumping sets	7.44	14.88	7.43	29.75
iv.	Construction of Bundhies	9.37	18.75	9.38	37.50
v.	Blasting and revitalising of well unit	1.87	-	-	1.87
	Total	33.43	63.13	31.56	128.12

Appendix - III

0	1	2	3	4	5
<u>4. Animal Husbandry</u>					
i. Distribution of improved					
a) Cows	2.67	5.33	-		8.00
b) She-buffaloes	5.00	10.00	-		15.00
ii. Establishment of Stockman centres	2.50	-	-		2.50
iii. Establishment of artificial insemination sub-centres	1.05	-	-		1.05
iv. Distribution of Fodder seeds	0.01	0.01	-		0.02
v. Distribution of goats and bucks	1.84	1.85	-		3.69
vi. Establishment of poultry farms on commercial lines	0.27	0.80	-		1.07
Total	13.34	17.99	-		31.33

5. Fisheries

i. Deepening and improvements of tanks, purchase of boats and nets, stocking of fingerlings	0.53	-	1.06	1.59
Total	0.53	-	1.06	1.59

6. Cooperatives

i. Establishment of cold storage	-	-	5.00	5.00
Total	-	-	5.00	5.00

7. Industries

i. Establishment of small scale industrial units	10.74	26.23	6.00	42.97
Total	10.74	26.23	6.00	42.97

8. Roads

i. Construction of kankar roads	22.80	-	-	22.80
Total	22.80	-	-	22.80

Appendix - III

0	1	2	3	4	5
<u>9. Power/Electricity</u>					
i. Village Electrification	2.60	-	-	-	2.60
Total	2.60	-	-	-	2.60
<u>10. Education</u>					
i. Establishment of Senior Basic Schools	5.48	-	-	-	5.48
ii. Establishment of Higher Secondary Schools	8.00	-	-	-	8.00
Total	13.48	-	-	-	13.48
<u>11. Medical and Health</u>					
i. Establishment of Maternity-cum-child Welfare Centres	1.60	-	-	-	1.60
ii. Establishment of Dispensary	1.65	-	-	-	1.65
Total	3.25	-	-	-	3.25
<u>12. Drinking Water</u>					
i. Potable Water Supply	3.40	-	-	3.40	6.80
Total	3.40	-	-	3.40	6.80
GRAND TOTAL	174.99	143.42	48.32	366.73	

M A P S